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Telephony®

THE JOURNAL OF THE TELEPHONE INDUSTRY

SINCE 1901

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Guaranteed Circulation This Issue
13,416 of Which 12,854 Is Paid

EMPLOYES AND PR

Informed employes help build good public relations for any telephone company. Here a group of supervisory employes of Southwestern States Telephone Co. learns about company policies, problems and operations. See page 22 for article on employes' role in PR.

MANAGEMENT • PLANT • TRAFFIC • COMMERCIAL • LEGAL • ACCOUNTING

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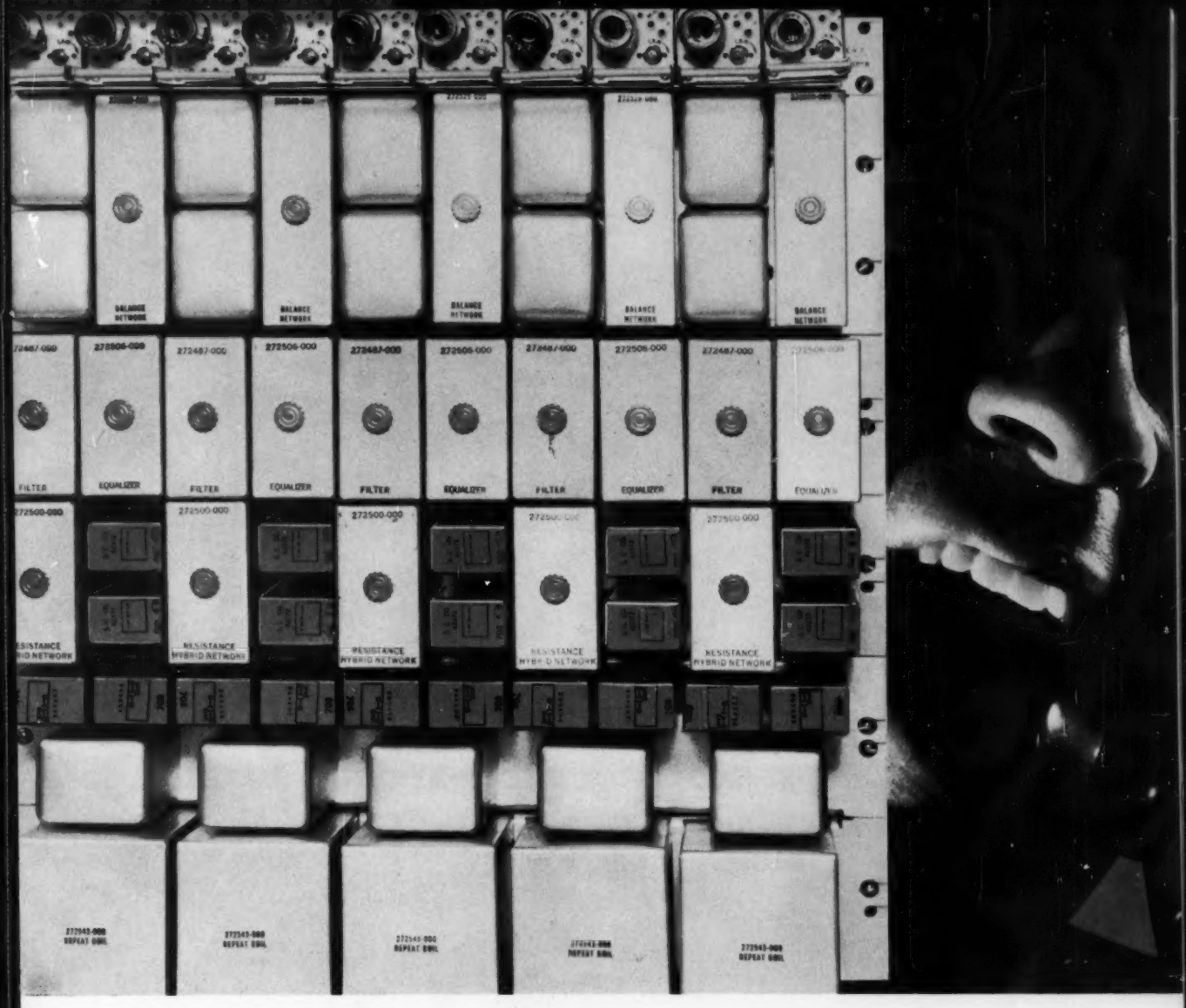

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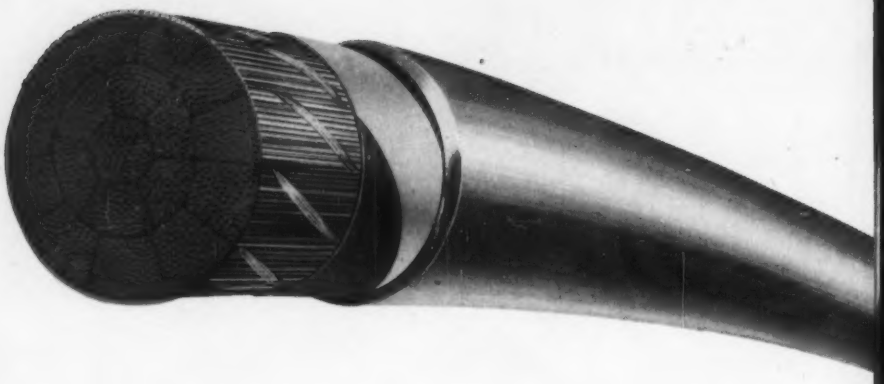

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Waveguide and antenna shelter at Vandenberg AFB. The cable

COUNTDOWN

Whenever an Atlas or Titan missile blasts off, Kellogg communications control and coordinate those all-important countdowns. All ground communications before, during and after a launching of these giant ICBMs takes place through Kellogg installations.

At Vandenberg Air Force Base, the U.S. missile training center, Kellogg has designed and engineered dramatic new apparatus and installed multi-thousands feet of cable as well as switching equipment that control the complex communications essential to successful missile launchings. Kellogg is associate contractor for Atlas and Titan missiles, a supplier for BOMARC, and a major participant in SAGE, making it possible for independent telephone companies to support and supplement the continental air defense system.

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Whenever you have a communications problem or need, call your Kellogg representative.

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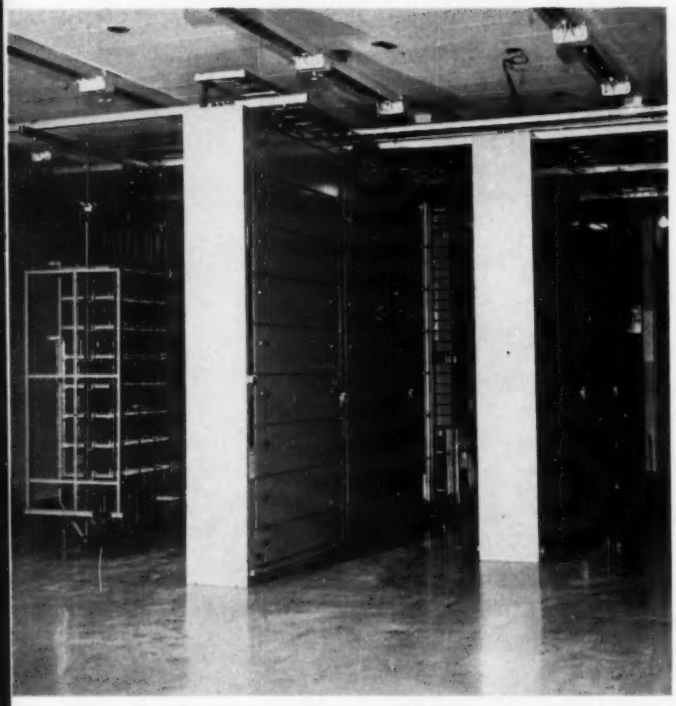
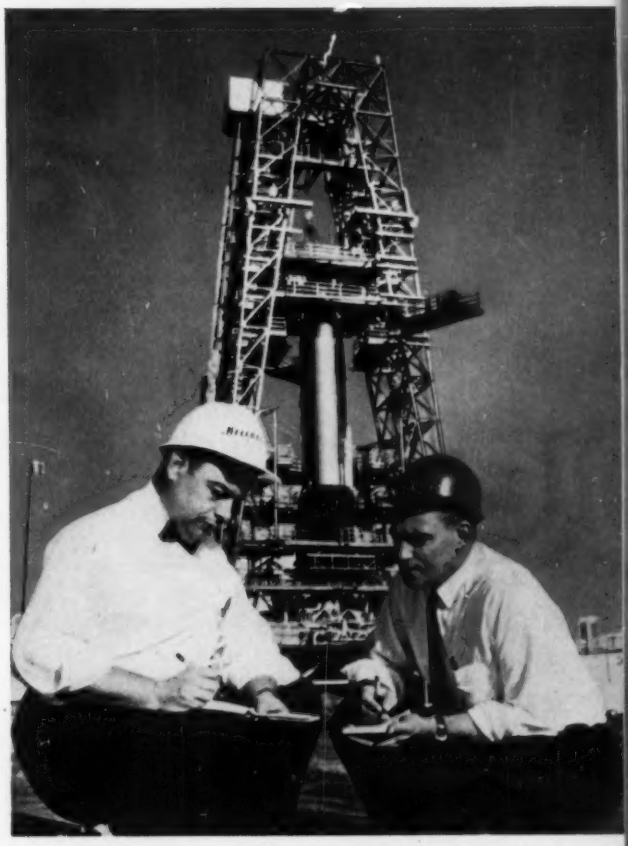
Atlas ICBM shortly after take-off.

inside the waveguide forms part of Kellogg's vast communications system at America's only missile training center.

..and count on Kellogg!



K-60 Crossbar was selected by the Air Force Ballistics Missiles Division to insure reliability of weapon system communication.



Kellogg engineers at Vandenberg confer in the shadow of an Atlas launching pad.

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KANSAS: 7th & Sunshine Road, Kansas City 15, Kansas, MAyfair 1-4418.
NEW YORK: 327 North West Street, Syracuse, N. Y., HArrison 2-9251.
TEXAS: 1515 Turtle Creek Blvd., Dallas 7, Texas, Riverside 7-5191.
EXPORT: 4600 So. Tripp Ave., Chicago 32, Illinois, CLiffside 4-4300.

FLASHES AND PLUGS

JUST A WEARYIN? A weary doctor, after a long evening of house calls, had gone to bed at midnight, and he and his wife had just fallen asleep when the telephone rang.

The young mother of an infant patient was on the line. "Doctor," she said, "little Charlie's formula doesn't seem to be enough for him. He's still hungry. What else can I feed him?"

With next-step readiness, the physician suggested that she start the baby on applesauce, bananas and baby cereal. The mother thanked him and hung up.

But at 5:30 a.m., she was on the line again, reporting, "I gave Charlie what you said, but now he wants breakfast. What should I give him?"

The doctor's sleepy wife, understandably irritated by now, blurted out, "Poison!"

The doctor reports that while Charlie remains his patient, somehow, his mother has never telephoned again at night.

•

THE FULL TREATMENT. A traveling auditor telephoned a customer to check some long distance calls recently in Arkansas City, Kan. After verifying the calls, he thanked the woman and said goodbye.

"Is that all?" asked the subscriber suspiciously.

"Why, yes," answered the auditor. "Should there be anything else?"

"I think so," the woman remarked. "You haven't tried to sell me *anything*. You're the first person from the telephone company who hasn't tried to sell me something for a long time."

She added, then, that all those sales messages had worked, too. She'd bought two color sets and an extension.

•

ACCUSTOMED STYLE. Father to daughter's beau: "Frankly, young man, you aren't making enough money to support her. But that's all right—neither am I."

•

GUARDIAN ANGELS. A Navy pilot was visiting the office of the National Aircraft Show in Dayton, O. during a particularly busy moment when the telephone rang. All hands being occupied, he took up the telephone and listened for a moment to the complaints of an irate resident of a nearby town.

"This is a dreadful thing!" she said. "Those airplanes are making so much noise I can hardly hear myself think!"

"Are they Russian planes?" the pilot asked.

"Certainly not! They're American planes. I can see them."

"Thank God!" said the Navy flier and hung up.—*Flying.*

CHANGE OF ADDRESS

Please notify your local postmaster and the Circulation Department of TELEPHONY of change of address. Change cannot be made without the old as well as the new address. Allow three weeks for change of address to become effective.

Telephony

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Since 1901

December 19, 1959

CONTENTS

IN THE NATION'S CAPITAL 17
By Francis X. Welch

1960 CONVENTION CALENDAR 18

LOOKING TO THE FUTURE OF TELEPHONE RATE STRUCTURES 20
By Frank S. Givens Jr.

PUBLIC RELATIONS IN THE TELEPHONE BUSINESS—INFORMED EMPLOYES—VITAL KEY .. 22
By R. L. Post

THE PLANT MAN'S NOTEBOOK 25
By Ray Blain

THE WOMAN'S PLACE 26
By Dianne P. Drucker and Helen Hardin

TROUBLE CLEARING—THE FARMER AND THE TELEPHONE (SEC. III) 27
By L. N. Martin

COURTS AND COMMISSIONS 29

HELPFUL LITERATURE 56

H. D. FARGO JR., *President and Director of Advertising* • A. J. STULTS, *Vice President and Advertising Manager* • R. C. RENO, *Vice President and Editor* • DAN S. FARGO, *Vice President and Managing Editor* • DIANNE P. DRUCKER, *Associate Editor* • HELEN HARDIN, *Associate Editor* • FRANCIS X. WELCH, *Washington Editor* • RAY BLAIN, *Technical Editorial Director* • MAYME WORKMAN, *Traffic Editor* • VIVIAN RYDEN, *Circulation Manager.*

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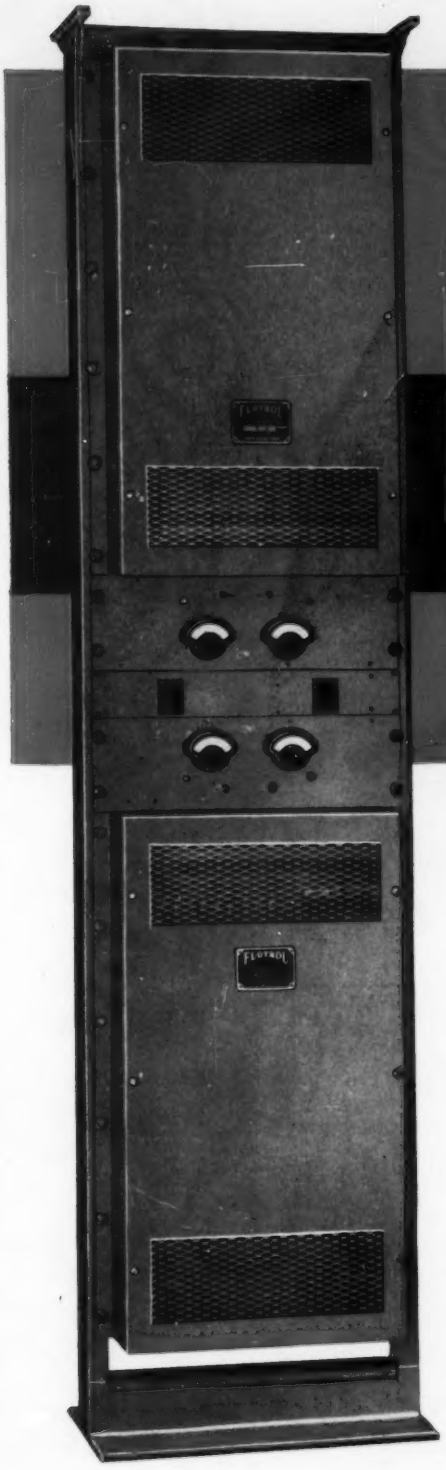

2 *in the space of* 1

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DUAL

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TWO STANDARD FLOTROL CHARGERS TEAMED TOGETHER FOR THE UTMOST IN FLEXIBILITY, SAFETY, COMPACTNESS

You get standby peak capacity or additional operating capacity — without using additional costly floor space!

The Lorain Dual Flotrol Battery Charger Assembly consists of two complete Flotrols mounted one above the other in a standard 23″ relay rack. The upper unit is inverted to bring all meters and controls to eye level, along with easy-access input and output leads. Total floor space: 24-3/8″ x 15″.

The two chargers can be used either individually, or continuously in parallel. In addition, an automatic control panel (optional) allows either Flotrol to be selected as the primary charger with the second unit automatically operated in response to load demands exceeding the capacity of the primary charger.

Maintenance work or replacement of either unit leaves the other in service.

Automatic proportional sharing of the load when operating in parallel is available on most of the 14 models.

Single-phase Duals offer a range of outputs from 24 to 48 amps. (input 230 or 115 volts, 60 cycles). Three-phase Duals cover 50 to 100 amps. Capacity of a Dual unit of less than maximum rating can be increased at any future time by substituting a larger Flotrol for either unit.

Lorain Dual Flotrols are offered in many combinations of chargers, controls and accessories. You can buy complete assemblies or any part you require. Get the full story.

Write for Bulletin 174A

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The telephone equipment you get from Graybar is tested and proved. It is the most modern available from the nation's leading manufacturers. It is equipment that will do the job with the utmost efficiency and at minimum cost over the years of its service life.

When the time comes to match modern equipment with good service, to talk equipment changes – anywhere along your lines – call in the Graybar man.

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INCLUDING NEW ADVANCES IN RELIABILITY AND FLEXIBILITY

THE PTW POLAR RELAY, for instance...

Lenkurt Type 23A Datatel telegraph carrier equipment incorporates advanced design features that provide wider latitudes of operation.

For instance, each 23A loop unit employs a PTW polar receiving relay that has a number of advantages over electronic keyers. Its use permits various polar arrangements without requiring an external repeater; it allows back-to-back operation, either half- or full-duplex; and because the relay introduces no voltage drop, there are fewer restrictions on loop length.

In addition, the PTW polar relay has a significantly superior maintenance-free life. It has 3/16" tungsten carbide contacts that are immune from pitting and contact build-up, and features an Alnico permanent magnet that retains its flux indefinitely.

Type 23A has the added advantage of being fully transistorized. Dissipation is only 2.5 watts per channel, and the equipment can be operated directly from any 48-volt d.c. source. A multimeter and VTVM are normally the only test instruments required for servicing.

For the full story on Lenkurt Datatel or companion equipment, call your Automatic Electric representative, or write Mr. T. B. Collins, Director, Carrier & Radio Sales, Automatic Electric Sales Corporation, Northlake, Illinois.

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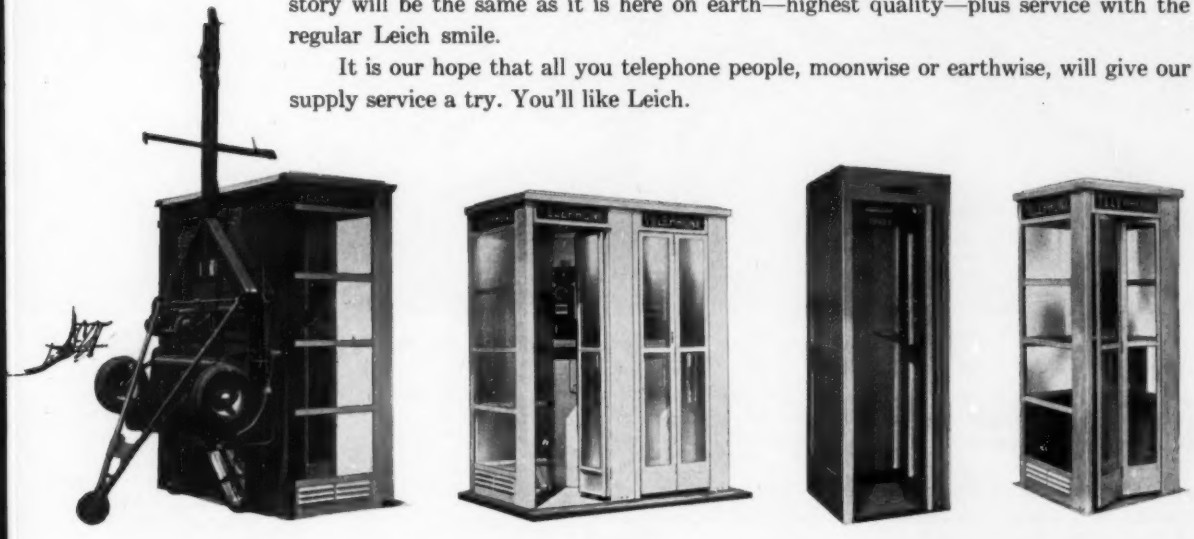
Subsidiary of GENERAL TELEPHONE & ELECTRONICS

Sure, there's a supply market up here, but Leich beat us to the punch!

You can bet the third man to step off the first moon rocket will be a telephone man. And as per usual, he'll be wanting fast, efficient supply service just like he's been used to getting on earth. That's why you'll probably find a Leich salesman up there Johnny on the spot.

He'll be armed with the brand new Leich supply catalog that shows cable, drop wire, tools, materials, booths, truck bodies and all the other fine Leich supplies. His story will be the same as it is here on earth—highest quality—plus service with the regular Leich smile.

It is our hope that all you telephone people, moonwise or earthwise, will give our supply service a try. You'll like Leich.



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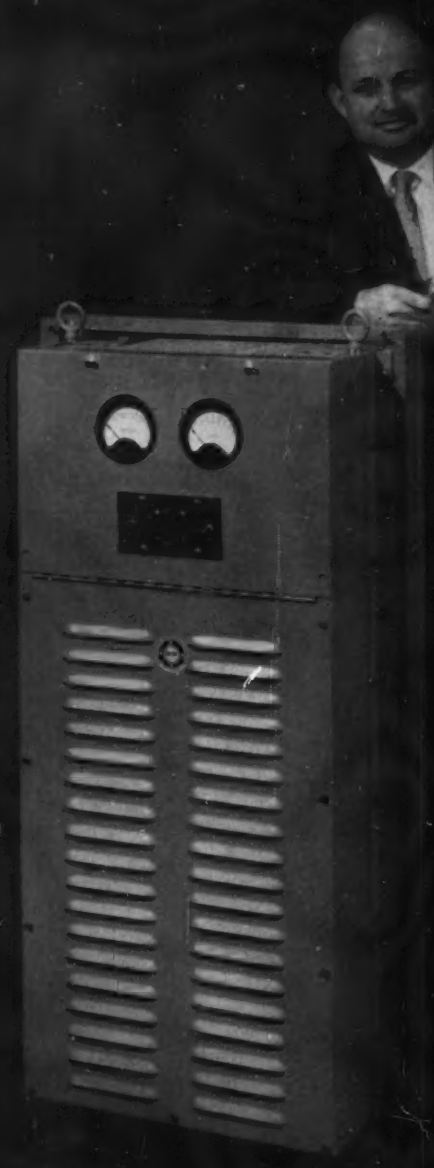
WARREN - best in battery chargers



The best things (including battery chargers) come in smaller packages these days

The Warren 48 TFR 100 shown here occupies one third the space, packs just a bit more than half the weight of other battery chargers of equal rating (100 amps).

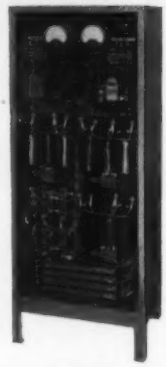
That's what semi-conductor design does for the modern telephone exchange these days. Gives you an automatic, full float, silicon type battery charger that's more compact, lighter, easier to install, and positively *frugal* on floor and rack space.

Now, ordinarily we might be tempted to add that — together with this space saving feature — you get equal performance and life as compared with other battery chargers.

But, strictly speaking, that's not true. In terms of performance and life, Warren TFR's are not *equal* to other battery chargers.

They're better.

Let us send you full information.



Compact, transistorized, field-proven Warren TFR's are available in a full range of current ratings in 24, 48, and 130 volt models. Illustrated: 48 TFR 100 with cover removed.

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THE WARREN MFG. COMPANY, INC.

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FIRST IN TRANSISTOR PRODUCTS FOR THE TELEPHONE INDUSTRY — SOLD THROUGH LEADING TELEPHONE EQUIPMENT MANUFACTURERS

IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH, WASHINGTON EDITOR

U. S. Circuit Court of Appeals rules certain communications services via radio are exempt from excise taxes. Two state supreme courts rule on highway relocation cost reimbursement. IRS and FPC ruling on utilities' advertising hit by newspapers and congressman.

IT IS NOT very often that the U. S. Court of Claims, which operates in Washington, D. C., in the judicial level of a U. S. Circuit Court of Appeals, hands down a decision of interest to communication industries. But such a decision was handed down early this month when the court of claims ruled that certain communication services via radio are exempt from federal excise taxes—as distinguished from communications moving over wire lines. The suit was brought by a Virginia electronic service company which furnishes musical programs to commercial subscribers such as restaurants, stores, hotels, and some industrial plants in the Norfolk-Newport News area. The company was seeking a tax refund from the Internal Revenue Service.

Some of these programs were furnished over leased telephone or other wire lines and the company made no claim for refund of excise taxes paid under the provision (Section 4251, Internal Revenue Code of 1954), dealing with wire and equipment service. But most of these subscribers were served via FM radio facilities. And as to those, the U. S. Court of Claims upheld the claim for tax refunds of the Hampton Roads Industrial Electronics Corp.

Excise tax imposed on such communications services amounts to 8 per cent of the amount charged, as compared with 10 per cent on monthly telephone bills, telegrams, long distance calls, and leased wire services. The government argued that when Congress used the phrase "wire and wire equipment service," it intended to include any technical methods of communication not already in regular commercial use and not otherwise expressly taxed. The government further argued that because some wire transmission was involved in both the radio broadcast and radio reception, the tax should stand. The court rejected both contentions, holding that when Congress used the word "wire" in its tax law, it must have intended to exclude radio.

The decision of the court, which was unanimous, apparently has no application to the 10 per cent tax on long distance telephone and telegraph messages, even though a great volume of such communications is carried, in part, via point-to-point radio transmission.

The court of claims opinion by Judge Laramore was based on the expressed tax provisions of the law. Because Congress did clearly intend to tax telephone, telegraph, and other commercial communications, and because it also clearly limited the tax to "wire and equipment services," the conclusion that it intended to exempt similar radio services must stand.

Judge Laramore further stated: ". . . defendant (Internal Revenue Service) contends that it is difficult to believe that Congress intended to discriminate in favor of those subscribers who receive the service in part via radio and against other subscribers who receive the musical program service wholly by means of readily accessible wire lines. If there is discrimination in the imposition of a tax, it is for Congress to remedy, not the courts." The government, which has until Mar. 3 to decide whether to appeal, will probably ask for a U. S. Supreme Court review to avoid tax amendment legislation based on alleged discrimination in the next session of Congress.

Judge Laramore's opinion also contained an interesting view of the historical distinction between wire and radio communications under federal tax laws. Judge Laramore said:

"The distinction between wire communication and radio or 'wireless' communication has long been well understood. Consequently, when Congress used 'wire' in section 4251, and its predecessor section, it must have intended to exclude 'radio.' This is made abundantly clear by the fact that in two places in both section 3465 of the 1939 Code, and section 4252, which defines terms used in section 4251, the word 'radio' is used. Had Congress intended that 'wire and equipment service' include radio, it would surely have used the word 'radio' in section 4252(e) as it did in section 4252(b) when it defined 'long distance telephone service' to mean a telephone or radio telephone message, and as it did in section 4252(c) when it defined 'telegraph service' to mean a telegraph, cable, or radio dispatch or message."

Musical Contributions— 1959 Style

Speaking of paid musical programs, the Federal Communications Commission struck pay dirt in more ways than one when it launched its recent investigation into the conduct of radio and television disc jockeys. In the process, the argot of the broadcasting business has enriched our general vocabulary with several new and colorful words and phrases; such as "payola" (under-the-table fees paid to disc jockeys), "presidential portraits" (cash bribes in large bills), "fringe benefits" (bribes in the form of hotel accommodations, entertainment, and hospitality of various kinds).

Early this month the FCC sent out over 5,000 questionnaire forms to radio and TV stations throughout the nation, directing them to submit sworn financial statements, including data as to any secret payments for plugging records or products. Although the Wash-

ington deadline for answering these FCC questionnaires is not until next Jan. 4, at least one segment of the broadcasting trade was ready, willing, and able to get its answering done early —right away, in fact.

These early replies came in from those stations—generally in the higher frequencies—which specialize in so-called "good music" programs (classical or semi-classical). And what do you suppose these early-bird answers showed? They showed that all those starving "long hair" types, such as Beethoven, Brahms, Mozart, Palestrina, and similar "squares" had not paid one dime in "payola" to a single disc jockey for playing their stuff!

But the boys who specialize in spinning other kinds of platters were having their troubles. And a number are expected to take the full 30 days before replying to the FCC. With various record manufacturers and promoters now singing like a treeful of canaries (for the investigators)about the "payola" they have been handing out, some of the turntable maestros are now wondering if "payola" was an unmixed blessing, after all. It would appear that some of these record makers' principal contribution to the art has been more financial than musical.

This may come as no surprise to those of us who have wondered for a long time about the validity of some of these weird rock-and-roll cacophonies, repeated five and six times a day under the solemn assurance of the presiding record impresario that it was the "sensational hit tune of the week," etc.

One interesting side line on this investigation was the indication that even such phony record promotion had an actual impact on popular choice at the jukebox level. Call it psychology or mass suggestion, or whatever, the fact seems to be that the average jukebox selections did and still do follow a fairly similar pattern of popularity, as the "ratings" promoted by the disc jockeys, spurious or otherwise. This would suggest that the susceptible teenagers and other rock fans were doubly deceived—once by the dollar-greased selection, and again by the corruption of their own musical taste (if you will pardon the expression).

It is probably beyond the jurisdiction of the FCC or Congress to make the punishment fit the crime, if any; but wouldn't it be unusual if the offending platter manipulators could be sentenced to listen, without interruption, to some of the same stuff they have been cramming over the airwaves, for pay? On second thought, however, forced listening to some of these rock-and-roll classics—which sound like the product of a tom-tom, tom-cat, and bazoo combo —would doubtless offend the constitutional guaranty of protection of all citizens from cruel and unusual punishment. Nice idea, though.

Convention Calendar

1960

Association	*Date*	*City*	*Hotel*
Minnesota	Feb. 7, 8, 9 and 10	St. Paul	St. Paul
Mississippi	Feb. 15 and 16	Unannounced	Unannounced
Louisiana	Feb. 24 and 25	New Orleans	Jung
Kentucky	Mar. 1	Lexington	Phoenix
Texas	Mar. 7 and 8	Dallas	Baker
Ohio	Mar. 28, 29, and 30.	Columbus	Deshler Hilton
Iowa	Apr. 5 and 6	Des Moines	Ft. Des Moines
Nebraska	Apr. 19 and 20	Omaha	Sheraton-Fontenelle
Indiana	May 4 and 5	Indianapolis	Claypool
Wisconsin	May 10 and 11	Milwaukee	Plankinton House
Illinois	May 19 and 20	Springfield	Abraham Lincoln
Kansas-Missouri*	May 23 and 24	Kansas City	Town House
Pennsylvania	June 6 and 7	Bedford Springs	Bedford Springs
California	June 8, 9 and 10	San Francisco	Fairmont
Washington-Oregon*	June 16 and 17	Portland	Sheraton Portland
New York	June 20, 21 and 22	Schroon Lake	Scaroon Manor
Michigan	Sept. 12 and 13	Mackinac Island	Grand
Rocky Mountain	Sept. 14, 15 and 16	Denver	Hilton
USITA	Oct. 9, 10, 11 & 12	Chicago	Conrad Hilton
Oklahoma	Nov. 9 & 10	Oklahoma City	Skirvin

*Joint Convention

Relocation Decisions

Two state courts went in opposite directions recently in construing state laws permitting highway authorities to compensate public utilities for the expense of relocation due to highway construction. In Arkansas, the relocation expense statute was upheld. In Idaho, following up an earlier decision on motion for rehearing, the state law permitting compensation for relocation was thrown out.

The Arkansas Supreme Court ruled (5 to 2) that the state highway commission must pay Arkansas Power & Light Co. for removing poles and power lines from the right-of-way used for the relocation of U. S. 167 east of El Dorado. The Arkansas high court upheld a ruling by a lower state court. Both tribunals said that the commission has the right to require removal of utility lines from roads and streets to prevent interference with such highway projects, but it must award "just compensation" for this.

The state highway group had contended that under the state's police powers it had the right to require removal of the utility facilities without compensation. The case involved 52 poles the commission required the utility to remove and relocate from the path of the El Dorado by-pass (U. S. 167), east of the city. While the commission agreed to compensate the company for moving 25 poles located on company right-of-way, it denied liability for the expense of relocating 27 poles originally located on public streets, county roads, platted streets in a rural area, and state highways.

In Idaho, the state supreme court refused to reconsider an earlier opinion in which it held unconstitutional a state law requiring reimbursement to public utilities for the cost of moving their facilities when necessitated by highway construction. Mountain States Telephone & Telegraph Co. and the Idaho Power Co. claimed acquisition of a property right in the public thoroughfares by virtue of the placing of their facilities on them.

The Idaho court disagreed, stating: "While the right so to place utility facilities and use the public thoroughfares has the attributes of property . . .

such is not, and cannot ripen into a permanent vested property right in fee."

Advertising and Lobbying

The newspaper publishers have definitely become aware of the threat to a free press which results from either tax or regulatory restriction on advertising expenditures by public utility companies. The newspaper publishers have a special interest, of course, in the possible loss of advertising revenue which would probably result if public utility companies (including telephone companies as well as electric utilities) could not class such disbursements as business expenses either for tax deductions or operating expenses in rate cases.

This is important because the newspaper publishers are in a far better position to rally congressional recognition in this respect than public utility companies. A congressman will listen to a newspaper editor far more quickly than he will to a public utility company official—all other things being equal.

This argument started many years ago as a result of an obscure provision in the old Internal Revenue Act (prior to 1954) denying the tax deductibility (as business expense) of lobbying expenses—that is to say, money spent to promote or defeat or change legislation. When the Internal Revenue Act was revised in 1954, this anti-lobbying provision was carried over and subsequently the Internal Revenue Service issued a regulation denying tax deductibility not only for lobbying expenses, but advertising and other publicity for promotional expenses of an allied or "political" nature. Some months ago the U. S. Supreme Court, in a case involving liquor interest, upheld the denial of business tax deductions under such circumstances.

But the newspaper publishers think that there is danger here of censorship. And it is no answer to say that utility companies may still advertise all they please as long as the owners rather than the ratepayers pick up the tab. The newspaper publishers realize that the volume of advertising business will not materialize under such circumstances and they feel that the restriction is unfair and unnecessary.

So, it came to pass that both the Internal Revenue Service and the Federal Power Commission have been criticized for rulings as to electric utility advertising as business expenses—for taxes and regulatory purposes, respectively. Elisha Hanson, general counsel for the American Newspaper Publishers Association, attacked the tax rulings before the House Ways and Means Committee.

Later on, Representative Brooks (D., La.) of the House Government Operations Committee, denounced both IRS and the FPC rulings as threats to press freedom. These rulings would exclude utility advertising expenditures to block public ownership from inclusion as business expenses. Hanson took the position that the government's taxing power should never be used to restrict or penalize the dissemination of information, regardless of its content or purpose. He declared that no government agency should "be vested with power to determine what advertisement will best serve the particular advertiser and the sale of his products."

Representative Brooks, went further in lambasting the rulings on anti-public ownership advertising. Backing the position of the newspaper publishers' association, he charged that the IRS and FPC acted as they did because of pressure "by forces in and out of Congress which favor more government in the electric power business." Brooks noted that "these folks have been disturbed by the fact that electric power companies are using advertising to inform the public about threats to their industry." He added, however, that no distinction should be made "whether advertising is done to meet private competition or competition from government." On the contrary, Brooks said, "we should be even more jealous of the right of private business and industry to protect itself against government than against private competition because of the police power inherent in government."

Telephone companies, as well as electric utility companies, or other utilities, could easily be ensnared in the so-called anti-lobbying restrictions either from a tax or regulatory angle. Telephone companies making contributions to advertising programs may not know specifically how these funds are to be spent. They might well be spent on publicity opposing legislation regarded as unfavorable to the telephone industry as a whole or as an independent group.

Changes in the Wage-Hour Law, such as the elimination of the small exchange telephone operators' wage exemption in the Fair Labor Standards Act, might fall under the ban of lobbying expenses if advertising were keyed directly along that line. Likewise advertising showing the unfairness of the federal excise tax on monthly telephone bills and long distance calls might be regarded as "lobbying expense" in view of the fact that bills to eliminate the federal excise tax on telephone operations, local and long distance, have been before every Congress in nearly two decades.

It might be unrealistic to expect that the arguments made by the newspaper publishers before the House Ways and Means Committee will bear fruit in the form of legislation that would insure the tax and rate expense deductibility of utility advertising. The present Congress is too left of center for that, and next year is the politically sensitive presidential election year. But depending upon which way the wheel turns next November, chances are good that this testimony before the House Ways and Means Committee for this kind of argument in Congress may eventually bear some legislative fruit.

The electric utility companies are proceeding with their long-delayed hearings before an FPC examiner. Counsel for 76 utilities contributing to an advertising program, battled for four days earlier this month on a rather narrow procedural ruling that testimony should be restricted to justification of contributions to nine public *vs* private ownership advertisements which appeared in a 1957 series of the electric companies advertising program. The FPC examiner refused to admit a broader line of evidence marshaled by the utility companies' counsel which would include testimony from a galaxy of electric executives. Such testimony was permitted to go into an "appendix" for the eventual use of the U. S. Circuit Court of Appeals for the District of Columbia. The electric group's lawyer was obviously building his case for court record to clarify the broader issue involved. But this must be preceded by a final FPC ruling following the examiner's opinion.

Wave-Bouncing Satellite

The United States plans to place a radio-mirror satellite into orbit next spring. A 10-story (100 feet) sphere in the form of an aluminum-coated balloon will orbit 1,000 miles above the earth and the bouncing of communications signals from the East to the West coast will be invited. The National Aeronautics and Space Administration expects to put enough of these balloon satellites into orbit to establish a world communications system.

Such a satellite system would make world-wide transmission of television possible. In making its announcement, the National Aeronautics and Space Administration departed from its long-standing policy of withholding such information in order that scientists throughout the world can make ready for the launchings. The establishment of such a series of relay satellites could be used for the world-wide transmission of radio and television broadcasts and could, of course, be adapted to telephone communications.

Looking to the Future of Telephone Rate Structures

*By Frank S. Givens Jr.**

IT MAY be presumptuous for me to go into telephone problems when there are in the audience such outstanding telephone men as Fred Switzer, who was probably fed telephone talk along with his baby food; Duane Swanson, who has been on both sides of the fence in regulating and operating; Fred Prufer, whom you are recognizing as the dean in telephone matters; Frank LaPrade, who has lived telephone for over 30 years; Joe Holloway, and all the others here who have devoted so many years of their lives to the furnishing of vital means of communication in this state. I would like to pass on to you a few observations for what they may be worth.

At this point I want to make one reservation. This talk does not express any official policy of the Virginia Corporation Commission.

While I have you in what I might call a "captive audience," I would like to take advantage of the opportunity to express a personal message. After about 20 years of work with the Virginia commission's engineering division, largely on electrical matters, I became primarily interested in the telephone problems about four years ago. I have enjoyed working with you. I can only thank you for the cooperation you have shown, and I believe we have made real progress in improving the communication facilities for the citizens of this state.

From my observations I have concluded that, throughout the Commonwealth of Virginia, the citizens want and need, can afford, and are willing to pay for a good, reliable communication service, efficiently operated. The problem has been to fill this order in recent years.

After the establishment of the certificated areas under the Utility Facilities Act of 1950, there were large areas that no company would obligate itself to serve. Some of these areas had never had telephone service, and some were once served by systems that ceased to function. The need and desire of residents of these areas for telephone service was made known to your companies and to the commission in no uncertain terms. By your cooperation and by sharing the load, the largest part of these areas has received or will receive service in the near future. . . .

With the area coverage problem becoming less important, the question of quantity and quality of service arises. A noted economist recently stated — "The only thing certain about the American economy is that the demand for goods and service is insatiable." On this basis, you who furnish a most critical and desirable service have a certain but unmeasured future obligation in a growing state like Virginia. To show the extent of the obligation of Independent telephone companies for telephone service in this state, I would like to cite the following figures: Nine of the 31 cities, or 29 per cent, are served by Independents; 122 of 198, or 62 per cent, of the incorporated towns shown in the secretary of the commonwealth's report are in Independent territory. From our files of certificate maps it appears that Independent companies are serving all, or a majority, of the area of 62 of our 98 counties. These 62 counties have an area of 26,045 square miles, or 65 per cent, of the state's total area. Continued outward expansion from our present centers of population can create a problem for a number of Independents. Too little and too late with facilities is not an acceptable answer.

In June, I attended a Conference of Utility Commission Engineers in San Francisco, at which several papers were presented and there was informal discussion about telephone matters. . . .

In a paper at the meeting, Mr. Dunlop, of the California commission, stated that their Bakersfield exchange has an area of 1,400 square miles, an exchange area larger than the entire state of Rhode Island. In regard to the Los Angeles area, I quote the following from Mr. Dunlop's paper:

"The Los Angeles extended area includes approximately 1,500 square miles of territory within which are served some 2.9 million telephone stations from 35 separate exchange areas. About 800 square miles of the area, containing 2.1 million stations in 23 separate exchanges, are served by the Pacific Telephone & Telegraph Co. (Bell). Three Independent telephone utilities — General Telephone Co. of California, California Water & Telephone Co., and Sunland-Tujunga Telephone Co., serve about 800,000 stations in 12 exchanges, comprising 700 square miles of this area."

This one area has about double the number of stations that are in the entire state of Virginia. In this area, extended service generally embraces untimed service to adjoining exchanges and multi-message unit service beyond these exchanges within the extended area. Original optional offering of the extended service was changed to non-optional plan. Extended area service between exchanges is quite widespread in California, especially around the larger centers of population.

H. J. O'Leary, chief, Rates and Research, Wisconsin Public Service Commission, spoke on "Recent Trends of Electric, Gas and Telephone Rates." In his talk he mentioned a trial being made by a telephone company in his state in which four-party service is being offered throughout its rural territory at a flat rate of $1.00 per month higher than the previous multi-party rate. The acceptance has been good and there has been an improvement in service.

Dr. Allen B. Astin, director, National Bureau of Standards, in a paper on "Measurement, Standards and Utilities," makes this paraphrase of a statement by Lord Kelvin:

"That when you can measure a property of something you are interested in and express it in numbers or some precise form, you know something about it and, therefore, may apply it; but when you cannot measure it, when you cannot express it in numbers or some precise form, your knowledge is of a meager and unsatisfactory kind and your ability to use such knowledge is limited. You may be in the early stages of craftsmanship but you have scarcely, in your operations, advanced to the stage of engineering."

The application of this statement to telephone rates raises the question as

*Mr. Givens is a Virginia Corporation Commission engineer. He presented this talk before the recent Virginia Independent Telephone Association Convention.

to how exact are our measurements of telephone service on which charges are based. The concept that charges shall be based on giving the subscriber the opportunity to seize and use the multi-million dollars worth of equipment for as long as he desires, or can keep the others on his party line quiet, cannot be expressed in figures, and, as Dr. Astin quoted, is not engineering. There was a time when the subscriber could only use a few thousand dollars worth of equipment before he came under company control, but with the use of dial telephones and Direct Distance Dialing, the value of property he seizes for his use is almost unlimited.

I would like to quote a few paragraphs from a paper delivered by Ernest W. Watson, vice president, General Telephone Co. of California, entitled, "Direct Distance Dialing as Viewed by a Marketing Man."

"I think it may be reasonably concluded that some day the economic factor alone will dictate that all calls be dialed directly by the subscriber. Then, the important marketing aspect of pricing would remain for determination. I should like to discuss this phase of marketing at some length as being the principal point of my message.

"I shall project well into the future at the time when the cost to keep track of a subscriber's usage by time, distance and quantity of calling will be almost negligible. I am assuming for this purpose that the research people will have developed a very inexpensive method under which automatic machine accounting will work in close harmony with electronic switching and direct subscriber dialing so that accounting for the call would be a complete, straight line, automatic process from central office recording equipment to the billing of the subscriber.

"I believe this is an assumption within the realm of reasonable probability. The assumption removes from a pricing discussion any substantial cost difference of handling a measured rate call in comparison with the cost of handling a flat rate call. The problem of pricing then breaks into at least two major components: One being the minimum size of telephone package available to the subscriber under a fixed monthly rate, and the other being the measured rate portion of the charge."

At another point in his talk, Mr. Watson said:

"It is timely for our pricing plans to be projected to the future when all subscribers will directly dial all telephone numbers, wherever they may be located on the North American continent or possibly throughout the world. I am surmising that in this X year, the distance and duration of a call will be automatically translated into price and placed on machine accounting at a cost of not more than a few mills per call. Under this arrangement, it would be entirely feasible to offer all telephone service to both business and residence users on a complete, measured rate basis. It would be desirable, though, to apply an appropriate monthly charge for readiness to serve, which would include no outgoing telephone calls.

"Universal subscriber dialing and automatic message accounting would afford the flexibility which would most nearly be the way the public might prefer to pay the total telephone bill. . . ."

Based on the above, let's join the speculation on what a good rate structure of the future could be like. The measurable components are a message or circuit over distance for a period of time. To give it a name, call it "message-minute-mile," or the abbreviation "MMM." That might be good for advertising copy. The subscriber could be assigned an arbitrary mileage based on average distances from the central office in zones for his local calls. On calls between central offices, the airline distance could be used. On each call the miles and minutes would be integrated and posted to the total MMM, regardless of the distance or length of call. The subscriber would have a minimum, allowing a certain number of MMM, or would have a small readiness to serve charge in addition to the usage charge. Such features as discounts for off-peak service or promotional rates for high usage subscribers could be used. Grade of service or number of circuits could be supplied by the company on the basis of the MMM over a test period.

What would be the advantages of such a system?

(1) A measureable service with

(Continued on page 48)

Safety Tips for Christmas

The joyous season of Christmas, to be fully enjoyed, must be made as free of hazards as possible, particularly, of those of fire.

A weary parent, fatigued from work, and perhaps, crowding shopping duties into too brief a time, may become careless. Among the Christmas-time safety tips that certainly should not be ignored are those affecting smokers. Carelessness at this time could result not only in loss of life but reduce the home scene to a shambles.

Forseeing the possible dangers, the homemaker, the host and hostess, should always make sure there are plenty of ashtrays about. These should be emptied frequently, and when emptying them, the person responsible should take care that there is no fire remaining in the tray, or contents that may set trash afire.

While burning ashes may set a fire at any time, if not properly extinguished, when the Christmas tree is up or being decorated, danger from ash, and from electric sparks as well, may be a very real thing. Cautious parents will take extra precautions now to protect lives and property.

The National Board of Fire Underwriters reminds parents to exercise caution in choosing toys, demonstrating how they operate to children, and in supervising play with them.

Here are some NBFU recommendations worthy of keeping in mind:

Adults should insist that all toys be safe—not likely to cause fire, shock or explosion.

Good judgment is essential in purchasing chemical sets for children. Toys requiring alcohol, kerosene, gasoline or carbide lamps may be hazardous in young hands.

On heat-producing toys, the UL (Underwriters Laboratories) label is especially important. The best assurance of getting a safe electrical toy is the UL label or tag on the toy.

And, after gifts are distributed on Christmas morning, parents should supervise all play with electrical toys or toys involving fuels and chemicals.

pr public relations in the Telephone Business

. . . INFORMED EMPLOYES—VITAL KEY

BY R. L. POST*

Part 2

HOW an employe feels about his company determines how his friends, neighbors, and the rest of the community are going to feel about the company, since surveys prove that employe attitudes mold public attitudes.

That is why the employe is the key to successful public relations. It is also the reason why every telephone company—regardless of size—should have an active employe information program as one of the first steps toward effective public relations.

How do your employes get their information about the company and its activities? From you, or . . . the grapevine?

The office grapevine distributes a commodity which is craved by every employe: Information about his job, the people he works with, and the company he works for. If the employe wants to be in the know, he merely has to tune in the grapevine.

The term "grapevine" originated back when Civil War troops used telegraph lines attached to trees which often sagged and looked like wild grapevines. Reports coming over these lines were often conflicting, so the term "grapevine" was used to refer to rumors which had no definite source and were generally false.

According to a nationwide employe opinion poll, employes want to know:

(1) About the company—its background, organization and general operations, its products or services.

(2) About the company's policies—especially new policies affecting employes and their fellow workers.

(3) About company plans — changes in methods and how employe jobs will be affected by such changes.

(4) How their jobs will be affected by government rulings, strikes at other plants, etc.

(5) How their jobs fit into the scheme of things and their chances for advancement.

(6) What the outlook is for business

*Mr. Post is Public Relations Director of The Southwestern States Telephone Co. of Brownwood, Tex.

D. T. Strickland, president of the Southwestern States Telephone Co. of Brownwood, Tex., addressing supervisory employes at the company's 1959 employe meeting, the theme of which was "Planned Production Produces Profit."

and what are the prospects for steady work.

(7) About the company's income; about its profits and losses; about plans for the future—like expansion or new products.

(8) About any circumstances that make layoffs necessary, such as the reasons why and how they will be affected.

This nationwide poll, conducted by a well-known national organization, shows the type of information for which employes seem to be hungry. After all, the employe spends more of his or her waking hours on the job than with families, neighbors, social groups, lodge groups, union leaders, or any other group.

An employe's job, needless to say, means more to him than is sometimes realized by managements who feel that the less you inform the employe the better. The employe wants all the information about his job and the company he can get. He wants the good news and the bad, and furthermore, he's going to get it! Either the telephone company shares this information with the employe and gives him the facts he is after, or else he falls back on the grapevine and listens to biased propaganda and hearsay. If he doesn't get information from the company, he looks to somebody else for it—and he then is on somebody else's team—not the company's.

Experience has proved that you can't suppress or weed out the grapevine. Chop off one tendril of the vine and two more pop out like the tentacles of an octopus. You have to live with the grapevine, but you can do something about the poisonous rumors and half-truths spread by this method of communication.

First, listen to what your employes really think, what they want to know, and how they feel about matters. Make your own check list of subjects in which your employes are interested.

Secondly, follow-up by telling your employes the facts about company policies, operation, economics, and other subjects in which they are interested. In other words, YOU feed the grapevine with *correct* facts today so you won't have sour grapes later.

That brings up the question of how to inform your employe group. How should your company communicate?

The most common means of employe communication are:

(1) Supervisory meetings.
(2) Employe meetings.
(3) Employe magazines.
(4) Employe letters or newsletters.
(5) Supervisory newsletters.
(6) Bulletin boards and reading racks.

MANAGEMENT BULLETIN

Vol. 3, No. 7
October 13, 1959

Prepared by
Public Relations Department

TELEPHONE INDUSTRY GROWTH EXPECTED

The telephone industry is expending at a rate that would put approximately 121 million telephones in service in the United States in 1970—or about 50 million more than at present—according to the Communications Industries Division, Business and Defense Services Administration, U. S. Department of Commerce.

The Division forecast, based on what is considered a moderate estimate of the country's population growth, business expansion, new homes, rebuilt housing, and new families, puts the prospective 1970 level at double that for 1956.

The telephone density trend in the United States indicates that in 1970 there will be approximately 56.6 telephones per 100 of population, compared with roughly 39 telephones per 100 of population in service at the end of 1958. From January, 1951 to December, 1958 the number of telephones in the nation increased from 43.0 million to 66.6 million.

Estimates for 1959, including results thus far, indicate that the number of new telephones to be placed in service will exceed population growth of the country by more than 500 thousand, giving the nation more than 70.5 million telephones by the end of the year. The telephone growth rate this year approximates 5.5 per cent as compared with an annual population of 1.6 per cent.

USITA CONVENTION

Five company officials are attending the 62nd annual convention of the United States Independent Telephone Association at the Conrad Hilton Hotel in Chicago, October 11-14, 1959. Representing the company are Mr. D. T. Strickland, Vice President and General Manager, L. T. Ford, Controller, H. W. Hammond, Chief Engineer, E. H. Utsman, Commercial Superintendent and R. L. Peet, Public Relations Director. Mr. Utsman is on the Commercial Conference program at the convention.

- more -

First page of a Southwestern States "Management Bulletin" which is sent monthly to supervisory employes.

The nationwide employe survey showed that most employes get most of their information about their companies through printed media, but that seven out of 10 employes stated they preferred to get their information by word-of-mouth, direct from their supervisor, or through meetings where they could ask questions, get further data, etc.

For this reason, it would seem that the best way to keep employes informed would be through employe meetings or through keeping supervisors informed by printed media so they can inform the employes.

The Southwestern States Telephone Co. has used employe meetings and the supervisory newsletter as prime means to keep supervisors informed so they can pass along information to employes by word-of-mouth. The company also publishes a monthly news magazine for its 1,200 employes.

Let's take a look at how this is done with Southwestern States.

The supervisory newsletter is called the *Management Bulletin* and is published as often as needed (generally once a month).

Some of the subjects that have been discussed include the following:

(1) *Wages vs. Cost of Living.* This article compared the increase in living costs over a three-year period with the average increase in basic wage costs to show that company wages had advanced 10 times as fast as the living cost index. This was published about one month prior to the opening of union negotiations for a new contract.

(2) *How the Company Stands in Competition For the Family Dollar.* This article shows per capita income in each state served by the company in 1929 and in 1956, as well as the average cost for telephone service per user, or total retained revenue per telephone, which indicated that the company was not getting as much, percentagewise, of the spendable dollar from the customer as in 1929.

(3) *How Recession Affects the Company.* This May, 1958, article went into details of the nationwide recession along with information as to how the recession was affecting stations, toll traffic, employe sales, etc.

(4) *Earnings Report.* This is in-

cluded quarterly in order that employes know about earnings, revenues and net income as compared with the same period the preceding year.

(5) *Population Increases in the Company's Territory.* This article gave population estimates for the four states served by the company at July 1, 1958, as compared with Apr. 1, 1950, which showed relative per cent increases.

(6) *New Union-Company Agreement.* This article gave all details of a new contract. Reports on the progress of negotiations are also reported in the *Management Bulletin.*

(7) *Farm Population.* An article was published about the decrease in the number of farms and rural farm population.

No subject is too "touchy" for the *Management Bulletin.* It is food for the grapevine and all supervisors are urged to pass the bulletin information by word-of-mouth to employes.

The 1959 employe meeting of The Southwestern States Telephone Co. was held in April at Dallas. The theme was "Planned Production Produces Profit." About 170 key people from the four-state area attended. Generally speaking, the ranking plant, traffic and commercial person from each exchange attended.

Each department had a part on the program. With each talk, various visual aids, such as slide films and movies, were used to give greater impact to the message being presented. An example of some of the material covered, by department, is as follows:

General Manager. Charts showed a 10-year record of originating local calls, offered toll calls, station connects and disconnects, gross operating revenues, average annual revenues per station, gross operating expenses, a breakdown of expenses per station, taxes paid, taxes collected, payroll cost, number of employes, fixed capital, employe fringe benefits and plant investment per station; how the company expended the 1958 income; comparison with other telephone companies on a per station basis; the company's share of the public's spendable dollar; a look at the 1959 budget; a look at the next five years.

Commercial Superintendent. The need for a more effective merchandising program and a greater participation of all employes in the program; increased semi-public and public telephone service; upgrades; filling party lines; general improvement in the collection and credit job; reducing held orders.

Plant Superintendent. Greater participation of plant employes in the merchandising program; reduction of material and supplies in warehouse; reduced car use; over-all improvement in the maintenance job.

Traffic Superintendent. Improvement in the service rendered to the public; proper switchboard loads so as to reduce expenses; greater per cent completion of offered toll calls.

Chief Engineer. A look at construction over the past five years; estimated construction budget for the next five years.

Revenue Requirements Supervisor. How the individual employe can participate in securing future rate increases.

Personnel Supervisor. Improved safety program; better employment practices; better selection of new employes.

Public Relations Director. What employes can do to improve public relations, including such activities as public talks, film showings, central office visits, etc.

General Auditor. Subscriber post card billing; plant maintenance expense results program.

To conclude the program, a guest speaker was engaged to address the group about economic factors that will affect business conditions in the future. The guest speaker was Dr. Richard B. Johnson, chairman of the Department of Economics of Southern Methodist University. He also discussed inflation, competition for capital, and the importance of supervisors motivating employes to increase productivity.

The employe meeting lasted two full days. Sessions generally began about 9:15 a.m., and adjourned at 11:15 a.m. for lunch and then re-convened at 1:15 p.m. and closed at 4:30 p.m. To give the group an opportunity to become better acquainted, the company arranged for a banquet, entertainment and dancing the first night of the meeting.

After the meeting, all of the talks and the data used for slides were compiled in book form and sent to each employe who attended the meeting as a permanent record. The employes who attended the Dallas meeting took this information back to their fellow em-

(Continued on page 52)

Two-color front cover of an issue of "The News," employe magazine of Southwestern States Telephone Co.

THE Plant Man's Notebook

BY RAY BLAIN, TECHNICAL EDITORIAL DIRECTOR

THE EIGHTH annual symposium of the technical progress in communication wires and cables, jointly sponsored by the U. S. Army Signal Research and Development Laboratory, Ft. Monmouth, N. J., and industry, was held at Asbury Park, N. J., on Dec. 1, 2 and 3.

A total of 191 companies in the wire and cable industry jointly sponsored this year's meeting. The registration was over 1,050 and visitors were present from several foreign countries. A total of 26 papers were presented on subjects of interest to the communications industry. That this meeting increases in size each year is considered ample evidence that it meets an important need of the industry.

An effort will be made to reprint some of the papers in full in TELEPHONY during the coming year. In the meantime, the following brief references will be made to a few of these papers which it is believed will prove of special interest to operating telephone companies.

A paper titled "Color Standards for Plastic Insulated Communication Cables and Wires" was co-authored by C. R. Ballard and W. W. Newman Jr., of the Rural Electrification Administration. This article explains in detail how color standards conforming to the Munsell System of Color Notations are used to provide and maintain a standard color code for all plastic-insulated communication cables.

Another paper, "Determination of the Coefficient of Linear Expansion with Temperature of Cable Structures," was written by K. J. Dahms and J. H. Shuhart of the Bell Telephone Laboratories. The bowing of aerial cable and its attendant phenomenon, fatigue failure of the metallic sheath, and how they may be prevented or minimized, is treated in this paper.

"Scope of I.P.C.E.A. Standards for Polyethylene Insulated Thermoplastic Jacketed Communication Cables" was the subject of another interesting paper presented by J. Vincent McBride, vice president of the communication cable section of the Insulated Power Cable Engineers Association. This is an organization of engineers active in cable design and manufacture. As the name implies, it originated in the power cable field, developing standards for cables utilizing paper, varnished cambric, rubber, and then thermoplastic materials as they came into use in cable construction. In 1956, I.P.C.E.A. recognized an obligation to provide standards for thermoplastic insulated communication cables because there were no industry standards.

"Ribbon Cables for use at High Temperature" was written by W. L. Gore, of W. L. Gore & Associates, Inc. This paper explains that an extensive interest has developed throughout the electronic industry in flat multi-conductor cables for use in general hook-up or control, signal and power circuits.

Four general types of ribbon cables are now available. The first type is made up of single insulated wires cemented or heat-sealed together to form a ribbon. The dielectric for these is usually plasticized polyvinylchloride.

The second classification are the braided constructions, made by forming a network of nylon, cotton, rayon, Teflon or other fiber around individual insulated wires to hold them in a ribbon configuration.

A third type, commonly called "printed circuit" cables, are made up of flat-strip conductors cemented or heat-sealed between sheets of insulating material.

The fourth kind is made up of homogeneous insulation encapsulating the conductors. Mr. Gore's paper describes the uses of the various types of ribbon cable now available.

A second paper on ribbon cable is titled: "Plastic Insulated Ribbon Cable for Switchboard Wiring," and is authored by F. Cools, H. Moons and J. Wuyts, of the Bell Telephone Mfg. Co., Antwerp, Belgium.

The authors explain that a ribbon cable in tape form and consisting of various parallel conductors can be obtained by several different methods. The manufacturing method is chiefly determined by the purpose and requirements of the cable; the insulating material and conductor shape will likewise influence the choice of manufacture.

No attempt is made to compare the various types in this paper. Only the ribbon cable type that can be considered suitable for switchboard wiring in telephone systems is described. This specific ribbon cable is above all identifiable by the existence of step-shaped openings at regular intervals in the insulation, the object of these openings being to make it possible to solder the conductors to the apparatus terminals.

The subject of ribbon cable is an interesting one and from all indications, we are due to see a lot of it coming into use in the immediate future.

A paper on "Automatic Conveyor for Polyethylene Granules" was prepared by H. H. Burroughs, G. A. Quick Jr., and J. F. Sheehan Jr., of the Western Electric Co., Inc. This paper covers the design requirements of a conveyor system capable of delivering 10 colors of polyethylene to 42 insulating lines, with a maximum number of colors available to each line in Western Electric's new Omaha, Neb., cable manufacturing plant.

These are only a few of the highlights of some of the papers presented. The entire program proved most interesting and is, we believe, evidence that wire and cable are at the present—and will continue for many years to come—a most important part in the field of communication.

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Crosstalk: A mile is only six seconds long in this jet age of air transport.

the Woman's Place

by Dianne P. Drucker
and
Helen Hardin
Associate Editors

WHAT a pity that more architects and builders don't take plans home to their wives before they go ahead, break ground, and goof.

They'd certainly save themselves from many hard feelings if they would first consult with homemakers and the telephone company before proceeding with construction of a home, or an apartment building.

Your correspondent speaks from bitter experience. As the first tenant in a modern, newly-built apartment on Chicago's North side, I looked forward to almost the ultimate in home planning.

I was terribly disillusioned when I discovered, the day that I moved in, that the builder had located the outlet for the kitchen telephone right over the gas stove.

Not relishing the thought of holding on to a hot telephone while slaving over a hot stove, I almost gave up the kitchen convenience. However, the Illinois Bell Telephone Co. installer came to my rescue.

Because the telephone company hadn't been consulted in the over-all planning of the apartment building, all tenants were requesting that their telephones be relocated.

Having had to deal with the same complaint several times that morning, the installer solved my problem, by putting the telephone on the opposite side of the kitchen wall in our adjoining dining room. I can still work in the kitchen and answer calls, no thanks to a short-sighted builder.

•

The other evening found this writer selling telephone service.

A friend, knowing that I am on the editorial desk of TELEPHONY, called to ask if there was any invention that would enable a mother of an infant to answer the telephone, even though her arms were full of baby.

It seemed that the telephone was always ringing just when she was giving him his bath, feeding him, diapering him or was in some other situation where her hands were occupied.

I told her about the advantages of the loud-speaker telephone and she was completely delighted. She had no idea such a marvel existed, she told me, and would contact the telephone company right away.

Seems to me that if service representatives or installers find out that an infant and/or active toddlers are members of a household, mention of a hands-free telephone would make a homemaker's ears perk up. A young mother doesn't get too much chance to read newspapers or magazines and may have missed the company's advertisements featuring loud-speaking instruments.

•

Now that in 1960, it is estimated that women will constitute 80 per cent of the nation's total office force, it seems inevitable that women, who are probably more color and style-conscious than men, will turn more attention to their business-hour surroundings.

Items that might come up for consideration were revealed recently when a panel of 10 business women met in Philadelphia. Their comments, ideas, and in some instances, complaints, were passed on to a manufacturer of office furniture and steel shop equipment, who sponsored the get-together.

Personnel directors would classify their contributions and opinions as typically feminine, for suggestions included hooks to hold oversized handbags (to which many business women are devoted) and panels under desks which would protect the woman with a run in her nylons from the too curious scrutiny of office associates.

The panel members were far from decrying all present office furniture styling. One woman praised the trend toward decorator styling, the increasing use of color, and slim, modern lines of various pieces of office furniture.

Patti Searight, program director of station WTOP in Washington, D. C., told those present that there is a feeling among women in the business world that color and special decorating are for management only, "but the general workers must take what they get."

No doubt, many a white collar girl and career woman would take issue with her on this point, for she herself may have been asked to give an opinion on a proposed decorating plan, or she may have helped to plan her boss's office.

Most of the panelists, however, agreed that "the boss seldom, if ever, consulted his secretary or any other woman in the company on new office furnishings and decorating."

Their comment might be countered in many organizations where the personnel department polls employes to get their opinions when a new office color scheme is being contemplated. It is not unheard of for employes to be consulted these days; and perhaps, bosses may extend this practice in the future.

Dona Guimaraes, associate editor of a magazine, was quoted as saying, "A

(Continued on page 53)

TROUBLE CLEARING

The Farmer and the Telephone (Sec. III)

By L. N. MARTIN

WE CLOSED the previous section of this discussion (TELEPHONY Aug. 22, page 30) with a description of the magneto telephone which was for many years *the* telephone. We found that it is not such a bad instrument after all. However, like many people, it has acquired a bad reputation by reason of the company it keeps. It is frequently found associated with very poor outside plant construction and worse maintenance. As a result it is often blamed for the noise, crosstalk, and poor transmission caused by outside plant conditions.

We stated that the effect of trouble on a common battery or dial farm line differs from that of the same type of trouble on a magneto line. A common battery telephone may be compared to a trolley car or a trolley bus. If the power house fails or the trolley wire breaks, the trolley car is dead. Even the lights go out. A magneto telephone is more like a gasoline or diesel bus. It is ready to go anywhere when there is a passable road.

If a common battery line goes open between the central office and the first telephone, all stations are dead and absolutely useless. The farmer cannot call his nearest neighbor.

If the same case of trouble happens on a magneto line, the farmer cannot, of course, place a call through the central office but intercommunication on the line is as good as ever. And we have learned in this discussion that this part of the service is very valuable to the farmer. In some circumstances it is of even more value to him than the exchange service.

It does not require much of a short (or ground on ring) to put a common battery line out of service. The line relay is usually adjusted to operate through 1,000 ohms and non-operate through 10,000 ohms. Therefore, it may operate through a short, measuring several thousand ohms. When the line relay is held operated by a short, the line must be plugged out on a manual board, or opened on a dial board, and all service on that line is ended until the trouble is cleared.

PART 72. The preceding article in this series appeared in the Aug. 22 issue.

Now there is no such thing as a "permanent" on a magneto board. The line is left connected and may be used if the resistance of the short permits any use. The service that may be obtained with a high resistance short on the line is often considerable and may be life saving in an emergency. We have seen cases of "dead" short where a farmer, located several miles from the trouble, could jingle the bell of his neighbor and converse at a greatly reduced volume, but still make himself understood.

This ability of the magneto set to work under very adverse conditions and its independence of a central office battery is a valuable feature on a farm line. *However, we are not advocating a return to magneto service. We should seek means of adding some of these features to dial service and we believe that this can and will be done.*

Some of the large companies use the term "local battery telephone" for what is commonly called a magneto set. This better describes the outstanding feature of this set. A local battery telephone does not necessarily include a hand generator. The local battery talking circuit may be associated with any type of signaling now in use and can probably be used with any signaling system yet to be invented.

The telephones on a railroad dispatcher's line are local battery sets. Common battery operation on these long lines would be impracticable. No generator is provided as the dispatcher on duty is always listening on the line. The dispatcher can call any station selectively by means of a Gill selector.

One type of telephone, once quite popular, has the long name: "Local Battery Talking Common Battery Signaling Set." (We will abbreviate this to "LBTCBS set.") As its name implies, it signals like any CB set (dial or manual), but the transmitter is energized by a dry cell battery located in or near the set. The story of this set is an interesting chapter in telephone history.

When the first attempts were made to convert rural lines to common battery it was found that, in many cases, the current through the transmitter of a distant station was insufficient for good transmission. At that time, all power plants were 24-volt (11-cell). Several methods were used to overcome this difficulty.

Rural long line equipment was devised, one unit of which was required for each line. It fed 48 volts from a small booster battery to the line. The dc signals and the ringing were relayed around the talking equipment. These units were quite expensive. Some companies tried connecting dry cells in series with the line to boost the current. This can only be described as "hay wire." The LBTCBS set proved to be the best solution, and many of them were installed.

Two improvements made these sets unnecessary: (1) New manual boards and all dial boards were provided with 48-volt power plants (This practically doubled the current on the line also), (2) improved transmitters were efficient with much less current than were the older types.

The LBTCBS set may still have its uses. Companies with long rural lines should make certain by actual millimeter test that outlying stations are receiving at least the minimum current specified by the manufacturer of the transmitter. If not, the LBTCBS set may be the solution.

It should also be noted that "local battery talking" would give the farm telephone some of that "independence" that we are advocating. With an improved battery (which will surely come) these sets may again come into general use on farm lines.

A business establishment with only one telephone and no extensions is now a rarity. A modern business office has a telephone on every desk, with intercommunication and many other special features.

Many city homes have auxiliary equipment. Extensions are found in the kitchen, in the basement, and on the second floor of two story houses. When extension sets are installed, there is soon a demand for intercommunication and signaling between the sets. All of this makes the telephone more useful to the subscriber and more profitable for the telephone company. We find very little of this equipment on the farm.

Extension sets with ringers are usually not available to the farmer. In the old days the farm line already had a full ringing load and if one farmer was given an extension, or a loud ringing bell, all would be entitled to the same service and the line would soon be hopelessly overloaded. Nowadays, it is not so much the ringing load as it is the tripping circuit that limits the number of ringers on a line. Means should be sought to overcome this difficulty. Perhaps an entirely new ringing system will be developed.

In the meantime, we can see no objection to any number of extension sets without ringers. Also a key may be installed which will disconnect the ringer in the main set and connect the ringer in the extension set and thus not add to the number of ringers on the line. For example: With an extension on the second floor of his house, the farmer, upon retiring, could operate a key at the main set and if a call was received during the night the upstairs telephone would ring. If the extension were in the barn and the women folk were leaving the house they could operate a key which would transfer the ring to the barn; or a similar key would disconnect the ringer in the telephone and connect a loud ringing bell located outside of the house.

Possible locations for extensions on a farm are the second floor of a home, a barn, a work shop, and a tenant house or bunk house.

If a farmer raises any kind of live stock or poultry, or is in the dairy business, there will be much activity in the barn. Also certain crops, such as tobacco, are processed in the barn. One of the large telephone companies offers a unique service for the barn. A microphone and loud speaker are installed there and a man working in the barn may answer a call from the house without stopping his work. (As we understand it, this system is not connected to the main line.) Where these facilities have been installed, the farmer has discovered a new use for it. By listening in on this circuit from the house at night he can be assured that all is well with his livestock, or if he hears a disturbance he can tell by the sound whether it is a sick animal, a beast of prey, or a human trespasser.

A tenant house may have a main line telephone, but if the landlord pays for it he may prefer an extension set which will be under his control. There should always be intercommunication between the owner's home and a tenant house or bunk house.

Some farmers have bought magneto telephones and built their own private line for this purpose. Some farmers have even talked with the writer about building a neighborhood private line to supplement their dial service. *We firmly believe that an operating telephone company should always be prepared and willing to furnish ALL the* telephone service *wanted by the people in its territory.*

If the farmer really wants a magneto private line, the telephone company should furnish it and the company can furnish it at less cost, in the long run, than can the farmer. Also the service would be very much better. However, the company may convince the farmer that he can obtain the same objective by some other method. For example: It will be more convenient to use the same telephone instrument on both the private line and the main line, by installing a key which will switch the instrument from one line to the other as desired; or some of the improvements suggested in this article may make a private line unnecessary.

Methods of installing and maintaining auxiliary services in the city are well established, but some modifications may be necessary when the same service is installed in a rural area. An intercommunication line to be connected to CB telephones must be fed talking battery through a retardation coil. The battery may be dry cells for a small installation, or a storage battery for a larger job. Signaling between stations is usually by battery operated buzzers or bells. However, if one or more stations are reached by outside plant, this is usually impracticable because of the voltage drop, and because more than one pair of wires would be required in the outside plant. In such cases, 20-cycle signaling is commonly used and the ringing current is obtained over a cable pair from the central office or from a nearby PBX. An intercom line that extends to distant parts of the city, or to other cities, is more properly called a private line. Such lines are usually worked "dry" (no battery on the line) like a toll line. Signaling is 20-cycle ring-down, unless something

(Continued on page 47)

Courts and Commissions

Ida. Supreme Court Affirms Relocation Payment Ruling

Idaho's Supreme Court, it was reported on Dec. 7, refused to reconsider its earlier opinion which held unconstitutional a law requiring the state to reimburse public utilities for the cost of moving their facilities when necessitated by highway construction (TELEPHONY, Nov. 14).

The Mountain States Telephone & Telegraph Co. and the Idaho Power Co. had petitioned the court for a rehearing of the case. They claimed acquisition of a property right or interest in the public thoroughfares by virtue of the placing of their facilities on them.

However, the Idaho Supreme Court's majority decision not to reconsider the case said:

"While the right so to place utility facilities and use the public thoroughfares has the attributes of property... such is not, and cannot ripen into, a permanent vested property right in fee."

Justice E. B. Smith, who wrote the decision, said the Idaho constitution recognizes only the right of telephone and telegraph companies to construct and maintain their lines within the state and connect them with other lines. He said it is left to the state legislature to provide the "reasonable regulations," and the legislature has enacted these reasonable regulations.

Citing two legislative acts, Justice Smith said the legislature had granted to the utilities the right to the use of the public thoroughfares to erect their facilities. But, he added, this right was "nevertheless defeasible—in such manner and at such points or places as not to incommode the public use of such thoroughfares; thereby recognizing that the sovereign, and its political subdivisions, hold the public thoroughfares in trust for use by the general public."

He said further that the state, as a sovereign body, may exercise its police power to cause removal of the facilities at the expense of the utility companies, where convenience and necessity of the paramount public use so require.

The opinion declared that the right of the utilities to use the public thoroughfares to locate their facilities is subordinate and defeasible and thus "there is no taking of property of the utilities without due process in violation of either the constitution of the United States or the state of Idaho."

Ask Ind. Rate OK And Drop Of 8 and 4-Party Service

In a petition to the Indiana Public Service Commission, the Indiana Bell Telephone Co., it was reported on Dec. 7, asked authority to:

(1) Eliminate toll charges in certain of its exchanges bordering seven areas served by the Smithville Telephone Co., Ellettsville.

(2) Drop tolls, in connection with an improvement program, between Bloomfield and Linton, Lyons, Switz City, Marco, Owensburg, Scotland, and the Cincinnati areas; between Linton and Bloomfield, Jasonville, Dugger, Lyons, Switz City, and Marco; between Jasonville and Linton, Dugger, and Hymera; and between Dugger and Linton and Jasonville. Lyons, Marco, and Switz City are exchanges of the Smithville Co.

(3) Drop eight-party rural and four-party urban service for the Bloomfield, Linton, Jasonville, and Dugger subscribers for whom Indiana Bell plans a conversion to dial service.

OK Installation Charge Waiver During LT&T Festival

The Nebraska Railway Commission on Nov. 30 gave permission to the Lincoln Telephone & Telegraph Co. to temporarily suspend and waive the authorized service connection charges for new main stations, extension, PBX trunk lines and miscellaneous equipment installed during sales promotional periods at certain exchanges. The waiver does not apply to regular service connection charges for moving or relocating equipment.

The company presently is conducting a "Phone Festival" at its Seward exchange and plans to hold similar events at other points next year.

Letters were written to subscribers at the Seward exchange to announce the event. These will be followed up by personal interviews at homes for the purpose of inspecting wiring and equipment and to suggest installation of extensions, color telephones and other items.

An unused commercial building was rented for construction of a display of telephone equipment and services.

Ladies of the community were invited to attend two special showings of the new motion picture "Plan for Pleasant Living." This will be shown in the display building.

Favors and color telephone folders will be distributed at homes and at the display. An added attraction will be a display of historical equipment.

Bell Plea for Increased Toll Rates in Tenn. Denied

The general increase in intrastate person-to-person toll rates asked in Tennessee by the Southern Bell Telephone & Telegraph Co. was denied on Dec. 3 by the Tennessee Railroad & Public Utilities Commission.

However, the commission approved increased exchange rates for 29 Tennessee communities. This will mean, it is reported, a revenue increase of $282,-124 a year. Southern Bell spokesmen said the general increase asked in toll rates would have added 1.1 million dollars to that figure (TELEPHONY, May 16).

In a seven-page order on Southern Bell's proposal, the commission regrouped 29 exchanges. The company had asked that 54 exchanges be reclassified into higher rate categories.

Tennessee Commission Chairman Raymond C. Fowler said other provisions of the order extend the base rate areas for 10 exchanges, in effect, allowing a rate reduction through the elimination of mileage charges. This means the company's revenue will be reduced by $28,400 for this service.

The commission also turned down the company's request for a 20-cent extra

(Continued on page 32)

MODERN STYLING

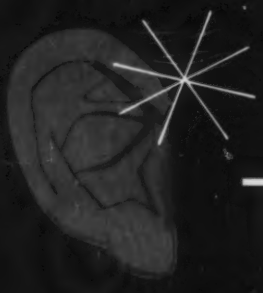
+

DIAL IN THE BASE*

+

LIGHT WEIGHT

+



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THE DYNAMIC FORCE IN THE TELEPHONE INDUSTRY

NORTH ELECTRIC COMPANY

Galion, Ohio

NORTH

charge proposed on collect long distance calls.

Southern Bell had offered to lower station-to-station toll rates in Tennessee in order to encourage those calls. As part of its plan, the company would have reduced the number of night-time hours during which lower rates presently apply.

The commission made no changes in the exchange rates for Southern Bell's seven exchange groups, but it stated that future expansion will result in automatic rate increases, upon the company's application and after a six-month waiting period. The rate groups are determined by the size of the exchanges.

Announce Rates, Financing Authorized in Nebraska

Increased rates were authorized for the Home Telephone Company, Brady, on Oct. 30 by the Nebraska Railway Commission (TELEPHONY, Nov. 21).

Also approved were a 10-cent rate for local pay station calls; $7.50 installation charge for color telephones, in addition to regular service charges; and an excess rural construction charge of $40 for each one-tenth mile, or fraction, of construction in excess of the first one-half mile.

Monthly rates for switching subscribers at Maxwell were increased to $1.00 each, with a minimum charge per line of $5.00. The new rates become effective with the conversion of the Brady exchange to dial service and the metallicization of the Maxwell exchange.

Rates approved were as follows:

	Monthly Rate or Charge
Brady exchange:	
One-party business	$7.75
One-party residence	5.00
Two-party residence	4.50
Rural business	6.75
Rural residence	5.00
Automatic fire alarm equipment	25.00
Maxwell exchange:	
One-party business	4.50
One-party residence	2.50
Two-party residence	2.00
Four-party residence	1.75
Rural business	4.00
Rural residence	3.50

In another order, the commission authorized the company to issue up to $70,000 in notes to the General Dynamics Corp., repayable in 240 consecutive monthly payments.

Ask Raise in Oregon

The Gervais Cooperative Telephone Association on Nov. 30 filed for new rates with the Oregon Public Utility Commissioner.

Indiana Commission Hears Service, Rate, Loan Pleas

The Indiana Public Service Commission has recently received petitions, as follows:

On Nov. 18, the Camden Cooperative Telephone Co., Inc. asked authority to cut over to dial service; borrow funds to finance this improvement; and correctly record the original cost; effect new rates at the time of cut-over; and discontinue toll charges between the Camden exchange and the Carroll Telephone Co., Inc., when both companies have converted to dial.

On Nov. 20, the Yeoman Telephone Co., Inc. asked for new rates.

On Dec. 1, the Eureka Telephone Co., Corydon, asked to buy the Leavenworth Telephone Co.; borrow an additional $210,000 from the government; and effect both EAS and an increased rate schedule for Leavenworth.

The Indiana commission issued orders, as follows:

Authorized the Kirksville Telephone Co., Princeton, to increase rates in its Cynthiana and Francisco exchanges; and to issue and sell an additional $50,000 of its common capital stock.

Authorized on Nov. 20 the Georgetown Telephone Co. to borrow $20,000 at 6 per cent, repayable over a period of 12 years; and to use the funds for completion of a rehabilitation program.

Also on Nov. 20, gave the Indiana Bell Telephone Co. permission to eliminate eight-party rural and four-party urban service in the Bunker Hill exchange area, and approved new tariff rates filed on Aug. 4.

Granted the Prairie Telephone Co., Inc., on Nov. 20 authority to borrow $50,000 from Stromberg-Carlson, and approved new rates as follows:

One-party business	$7.50
One-party residence	5.50
Rural multi-party business	5.50
Rural multi-party residence	4.00

SBT&T Appeals Alabama Rate Cut and Refund Order

The Southern Bell Telephone & Telegraph Co. on Dec. 9 appealed a rate reduction and refund ruling of the Alabama Public Service Commission to the Montgomery Circuit Court.

The commission ruling, also on Dec. 9, required the company to cut its rates by about 3.3 million dollars and to refund 27 million dollars to Alabama subscribers.

In 1954, the company had asked the commission to allow rate increases amounting to 4.8 million dollars. The commission denied the company's request.

Southern Bell then appealed the commission's action to Montgomery Circuit Court. In June, 1954, Judge Walter B. Jones allowed the company to put the proposed rates into effect subject to refund later.

In 1955, the PSC appealed Judge Jones' ruling to the Alabama Supreme Court. The court, in July 1958, sent the case back to the commission ordering it to set telephone rates on the basis of "reasonable value" of the company's property, rather than original cost.

The company valued its property, as of Sept. 30, 1958 at an original cost of 145.9 million dollars. They said its reproduction cost was 174.7 million dollars.

The commission set the "reasonable value" of the property at about 153.3 million dollars.

A return of 5.57 per cent on this investment was set by the commission in its ruling.

The company said it should be permitted to earn at least 6.90 per cent on its investment. They pointed out that in 1949, the Alabama Supreme Court approved a 6⅔ per cent rate of return.

Frank Newton, Southern Bell's vice president and general manager for Alabama said, "The commission's order fails to recognize the sharp increase in the cost of capital which has occurred since 1954 and which necessitates improved earnings."

The PSC order allowed the company to keep 9.8 million dollars of the 34.8 million it had collected in disputed rates since 1954.

The commission required the company to return 21.5 million dollars paid by its 450,000 subscribers, plus 3.5 million, representing 6 per cent interest, and 2 million dollars in excise taxes.

In the same rate order, a proposed flat 20-cents-per-message charge on intrastate station-to-station collect calls was refused. Southern Bell had asked to add the charge in addition to the regular tolls on station-to-station calls.

General of Southwest Gets Raises at 6 Texas Exchanges

The following rate increases became effective in Texas exchanges of General Telephone Co. of the Southwest during November 1959:

	Old	*New*
Amherst, Dial, 341 stations, Nov. 26.		
One-party business	$8.50	$9.50
Two-party business	7.00	8.00
One-party residence	4.50	5.00
Two-party residence	3.50	4.00
Jacksonville, Dial, 4,095 stations, Nov. 16.		
One-party business	9.90	11.50
Two-party business	7.75	10.00

(Continued on page 36)

SUTTLE

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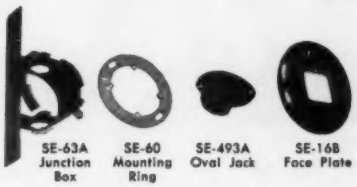

MODERN PLUG AND JACK ASSEMBLY

Latest telephone practice calls for use of the SE-63A (open) junction box, SE-60 mounting ring with oval SE-493A jack, and one of the several types of the SE-16 series face plates in ivory, brown, or blue-beige. The SE-63A bracket or junction box screws into vertical wall studs (2 x 4 or other) and accepts modern outlet hardware assembly as shown above. Send for literature and prices from SUTTLE or your distributor.

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All packaged in one compact unit for easy installation and accessibility. COOK Loading Coils reduce attenuation, combat frequency distortion and avoid cross talk on existing lines. 3C protector blocks assure moisture proof termination. The COOK Coil Case is made in 6, 11, and 16 pair and the loading coils have a nominal inductance of 88MH. For prompt delivery, order from SUTTLE.

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PLEASE PRINT CLEARLY

COMPANY NAME _____

STREET ADDRESS _____

CITY _____ ZONE ____ STATE _____

One-party residence	5.00	6.00
Two-party residence	4.25	5.00
Four-party residence	3.10	4.00
Munday, Dial, 847 stations, Nov. 6.		
One-party business	9.00	10.00
Two-party business	7.00	8.00
One-party residence	4.25	4.75
Two-party residence	3.50	4.00
Ozona, Dial, 1251 stations, Nov. 21.		
One-party business	8.00	11.00
Two-party business	7.00	9.00
One-party residence	4.75	5.50
Two-party residence	3.75	4.25
Seagraves, Conversion to Dial, 842 stations, Nov. 3.		
One-party business	8.50	11.00
Two-party business	7.00	9.50
One-party residence	4.50	5.50
Two-party residence	3.75	4.75
Throckmorton, Dial, 599 stations, Nov. 6.		
One-party business	7.25	8.75
Two-party business	6.25	7.50
One-party residence	3.75	4.50
Two-party residence	3.25	3.75

Grant Increase On Cut-Over in Alabama

The Alabama Public Service Commission on Dec. 2 approved a schedule of increased rates to the Orrville Telephone Co., on its conversion to dial operation. The company filed for an increase on Aug. 4 (TELEPHONY, Oct. 17).

The Orrville company provides manual magneto service to approximately 160 subscribers.

Financing for the improvements program was arranged through a loan from Stromberg-Carlson in the amount of $66,000.

Company officials said the increase would enable the company to meet increased cost of operations under dial service, and to have sufficient earnings to meet principal and interest obligations. It is expected that the rate increase will give a "reasonable net return" after the cut-over, which Mrs. Myrtle S. Davis, manager, says is now in progress.

Set Rate Raise Hearings For 2 Arkansas Companies

A Dec. 16 date was set by the Arkansas Public Service Commission to hear the application of the Yelcot Telephone Co., Yellville, to raise rates at its Cotter exchange.

Also in Arkansas, the commission on Dec. 17 was to have heard the application of E. Ritter Telephone Co., Marked Tree, to increase rates at its five exchanges. These are: Marked Tree, Lepanto, Tyronza, Keiser and Midway.

Ask Increase in Louisiana

The Louisiana Public Service Commission on Dec. 16 was to have heard the petition of Northeast Louisiana Telephone Co., Inc., Collinston, for a rate increase.

System's Rate Increase Is Authorized in Michigan

The Moore Telephone System, Inc., Caro, has been granted a rate increase by the Michigan Public Service Commission, it was reported on Dec. 4 (TELEPHONY, June 13).

No effective date for the increase has been set, but the new rates are expected to yield an additional $4,462 annually in the Caro area and $2,521 in the Marlette area, according to a company spokesman.

The system is currently serving 1,278 stations at Marlette and about 2,333 stations at Caro.

The Moore system was cut over to dial in November, 1958, and a few months later, was purchased by the Independent Telephone Corp. of Dryden, N. Y., which has since operated it, but under the original name.

Since the acquisition by the New York company, investment has been increased by about $92,825, and it is reported that by the end of 1960, investment will total about $407,865.

Raps Rulings on Utilities' Ads as Censorship

Rep. Overton Brooks [D., La.] has charged that recent rulings by the Internal Revenue Service and the Federal Power Commission amount to federal censorship of advertising.

Representative Brooks issued a statement attacking decisions by these agencies that certain advertising by electric power utilities cannot be listed as a business expense for income tax and rate-making purposes.

He said the rulings resulted from "pressure applied to these agencies by forces in and out of Congress which favor more government in the electric power business."

Such forces, he said, "have been disturbed by the fact that electric companies are using advertising to inform the public about threats to their industry from government encroachment."

Disallowing such advertising as a business expense poses "a great threat to freedom of the press and freedom of speech," Representative Brooks said.

"Whether advertising is done to meet private competition or competition from government cannot make any difference in principle," he said.

"In fact . . . we should be even more jealous of the right of private business and industry to protect itself against government than against private competition because of the people's power inherent in government."

Representative Brooks said "those who favor this power of censorship" argue that the advertising is not actually being prohibited. But he said "this thesis is a fallacy."

If a government agency has the power to say what kind of advertising is not a proper business expense, he said, "Soon the agency will assume more control over advertising and eventually business will need to clear all copy with Washington."

Obituary

FRED A. STURM, an employe of the Inter-County Telephone Co., Gallatin, Mo., died of a heart attack at his home in Gallatin on Dec. 2.

Mr. Sturm entered the telephone field in 1918, and was a member of the Theodore Gary Chapter of the Independent Telephone Pioneer Association.

Survivors are his wife, one daughter, a son, his mother, three sisters, and eight grandchildren.

Ill. Company Asks to Sell

The Illinois Commerce Commission on Dec. 1 received the application of the Mississippi Valley Telephone Co., Carthage, to sell, and of the Western Illinois Telephone Co., Aledo, to purchase, Mississippi Valley's telephone plant and properties through stock ownership.

Seek Service Raise in N. D.

The Youngstown-Rosebud Telephone Co., New Salem, has asked the North Dakota Public Service Commission for authority to raise its rates for service to the Fairdale Telephone Co. from $14 to $17 yearly per subscriber.

Approve Oklahoma Sale

Sale of the Dover Telephone Co. by Mrs. Clara Benson, long-time owner and manager, to the Pioneer Telephone Co., Kingfisher, was authorized recently by the Oklahoma Corporation Commission.

Ask Sale in Arkansas

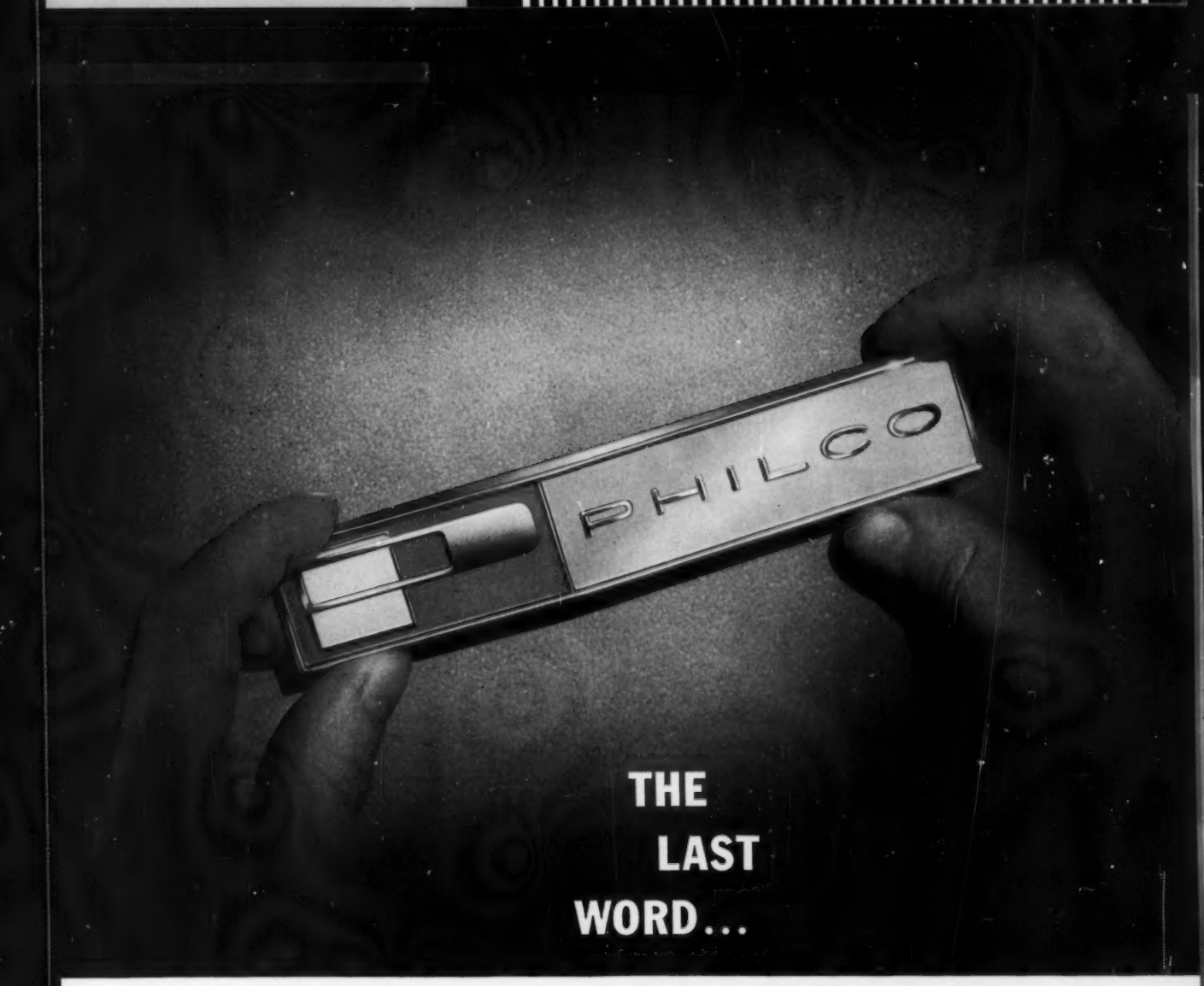
The Arkansas Public Service Commission recently received the application of Leroy and R. G. Beck to sell the Okolona Telephone Exchange to G. E. Shackleford *et al.*

Incorporate in Oklahoma

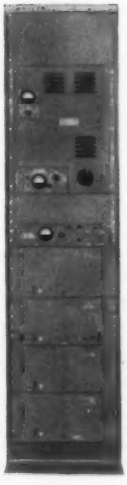
The Vian Telephone Co., Stillwell, Okla. has been granted a charter of incorporation. Incorporators are J. W. Holt and J. K. Holt, both of Stillwell, and Wanda M. Crandal of Tulsa.

Give and Take

"I love a friendship that flatters itself in the sharpness and vigor of its communications."—MONTAIGNE.



...and your guarantee of peak performance, reliability and economy in MICROWAVE RELAY SYSTEMS



PHILCO's famous TLR-4 Microwave Repeater . . . a true repeater, for top performance, simplicity of operation and maintenance.

Philco . . . the pioneer in microwave relay of television . . . offers unequaled experience and capability in the design, engineering and installation of a complete system to meet your specific requirements. Philco microwave systems provide true fidelity point-to-point relay of "off-the-air" television programs over short or long hauls, at minimum cost. Stable, broadband transmission makes Philco Systems equally applicable to community TV and S-T-L relay of NTSC compatible color or monochrome signals, including audio program channel. They assure dependable, unattended, continuous operation. Philco's famous Turnkey Services . . . including site surveys, system planning, installation and field service . . . are at your command. Complete information is yours for the asking. *Government and Industrial Division, 4700 Wissahickon Ave., Phila. 44, Pa. In Canada: Philco Corp. of Canada Limited, Don Mills, Ontario.*

PHILCO®

Famous for Quality the World Over

Deputy Chief Signal Officer Now Major General

Promotion of the Army's deputy chief signal officer to major general was announced on Dec. 1 by the Office of the Chief Signal Officer.

Maj. Gen. Earle F. Cook, deputy chief signal officer since July of this year, received his second star in a brief ceremony in the office of Maj. Gen. R. T. Nelsón, chief signal officer of the Army.

General Cook's mother and his wife pinned the new insignia on the general's uniform, as General Nelson looked on. Also present during the ceremony were Maj. Gen. William W. Dick Jr., director of special weapons, Office of the Chief, Research and Development; Maj. Gen. James Dreyfus, director for communication electronics (J-6), Joint Chiefs of Staff; Maj. Gen. F. T. Pachler, director of operations, Office of Deputy Chief for Military Operations; and Maj. Gen. H. L. Scofield, chief, Signal Procurement and Distribution Division.

General Cook held several important research and development posts before being appointed to his present position. He has been assigned to responsible positions embracing such fields of Army Signal Corps work as Army communications, electronic equipment and systems and meterological devices. Some of his activities included the direction of Signal Corps effort on space age developments.

The first solar conversion for satellites—used with Vanguard I—and the Cloud Cover satellite were developed at the USASRDL, Fort Monmouth, N. J. while General Cook commanded the laboratory from 1955 to 1958. General Cook directed Project SCORE, often called the "talking satellite," as it carried the first voice from space, President Eisenhower's 1958 Christmas message. It was developed by the Army Signal Corps for the Advanced Research & Projects Agency when General Cook headed the Research and Development Division in the Chief Signal Office for one and one half years just prior to becoming deputy chief signal officer.

General Cook also served in operational signal assignments during and following World War II. Commander of the White Sands Signal Corps Agency at the White Sands Proving Ground, N. M. from 1952-1954, he began an early association with missile electronics work while on this assignment. Upon activation of the U. S. Army Electronic Proving Ground at Fort Huachuca, Ariz., where many of the Army's new communication-electronic and surveillance equipments are tested and evaluated, he was appointed deputy commander and held this position until being appointed commanding officer, U. S. Army Signal Research & Development Laboratory, Fort Monmouth, N. J.

He held various assignments with Signal Corps Intelligence Service in the United States and in the European Theater of Operation from 1940 through 1947.

His other overseas service included a tour of duty in Panama from 1931 to 1934; and in Hawaii and the Marshall Islands after World War II, where he formed Joint Task 3.

Born in Brooklyn, N. Y., Nov. 8, 1907, General Cook spent his early youth in Cleveland, O. A 1931 United States Military Academy graduate, he was commissioned in the Coast Artillery Corps and transferred to the Signal Corps in 1935, when he was assigned to the First Signal Company at Fort Monmouth. After graduation from The Signal School in 1939, he organized the Second Signal Service Company and completed a special tour of duty with industry.

He is a graduate of the Armed Forces Staff College and the National War College.

A brigadier general since 1935, General Cook has been awarded the Legion of Merit, the Commendation Ribbon with Metal Pendant and a number of citations.

The stars of a major general are pinned on Maj. Gen. E. F. Cook, Deputy Signal Officer, U. S. Army, by his mother, Mrs. Florence May Cook, right, and his wife, Mrs. Jessie Elizabeth Cook, at the promotion ceremony, on Dec. 1, in the office of the chief signal officer, at the Pentagon, Washington, D. C.

"Varactor Diode" Used in UHF Radio Receiver

An ultra-high frequency mobile telephone radio receiver designed around solid-state devices was described recently by L. G. Schimpf of the Bell Telephone Laboratories. Speaking at the annual meeting of the Professional Group on Vehicular Communications of the Institute of Radio Engineers in St. Petersburg, Fla., Mr. Schimpf told how new devices such as the "varactor" diode can be used in a solid-state radio receiver designed to operate at around 900 mc.

The receiver is of the double-conversion superheterodyne type with a first i.f. centered at 63 mc. and the second at 10.7 mc. It has a sensitivity of about one microvolt for 13 db of quieting. All amplification, conversion, and frequency generation operations are fulfilled by using solid-state devices.

To provide the high local oscillator frequency necessary for the first conversion, a three-step chain is employed, consisting of a crystal-controlled transistor oscillator, a transistor doubler and a frequency tripler. It is in this frequency tripler stage that the special characteristics of the varactor diode are employed to advantage.

The "varactor" diode, or variable-capacitance diode, was developed recently at Bell Laboratories. It consists of a p-n junction whose capacitance varies as the reverse voltage across the junction is varied. Thus, if a sine wave is impressed on the diode, the output will be very rich in harmonics. The varactor diode is, therefore, a very efficient harmonic generator and in the multiplier chain functions as a frequency tripler.

A silicon diode is used as the first mixer, and the first i.f. consists of a two-stage transistor amplifier with a gain of about 35 db. The second oscillator is transistorized and crystal-controlled, providing a frequency of 73.7 mc. This frequency, when mixed with the first i.f. of 63mc., gives the second i.f. of 10.7 mc. This second i.f., which is also transistorized, serves as a limiter when FM signals are being received.

The varactor diode used in this re-

SAVE "COPPER DOLLARS"...PLUG IN HALLAMORE E-REPEATERS

Hallamore field engineers, working with telephone company engineers and engineering consultants, have discovered how to save your company "copper dollars," when building new outside plant or when bringing about transmission improvement on existing facilities. Using Hallamore produced, negative impedance E-Repeater equipment, field-proven as most economical and trouble-free, they plug in versatile amplifying power, instead of hanging—or burying—costly copper cable. 15 circuits or 1500, there are important economies in the application of Hallamore E-Repeaters and allied equipment. A qualified Hallamore engineer will be pleased to consult with you, or we will send detailed descriptive material at your request. *Note... Immediate delivery is available.* Hallamore Electronics Company, Telephone Dept., 714 Brookhurst St., Anaheim, Calif. • A Division of The Siegler Corporation.

HALLAMORE

Examples of "Transmission Improvement" Possible with Application of E-type Repeaters

THE term "transmission improvement" is on the tongue of many telephone engineers these days. In order to furnish proper standards of service over subscriber's loops, extended area trunks, and toll connecting trunks, the industry is frequently having to "do something about it." The solution is often the application of Hallamore E2 and E3 repeaters. Most thoroughly field proven, absolutely stable, and capable of maintaining constant gain-frequency characteristics; these units offer important advantages over other types of negative impedance repeaters.

Typical gains possible with E-type repeaters are as follows: A. One E2 repeater, operating alone, makes it possible to reduce circuit loss to about one-half the non-repeatered value on regularly loaded or non-loaded circuits. Located at or near the loss center of the circuit, one E2 repeater can provide a maximum gain of 8 db. Located at either terminal, a lone E2 can achieve a gain of 6 db.

Note: To avoid echo problems on toll-connecting trunks operating at VNL +2, the E2 repeater must be used in association with an E3. Use of the E2 alone should be confined to extended area trunks.

B. By utilizing an E2-E3 combination, the circuit loss of properly loaded facilities may be reduced by approximately 85% of the non-repeatered value. Located at or near the loss center of the circuit, an E2-E3 combination will provide a maximum gain of approximately 12 db. Located at either terminal, the E2-E3 combination can achieve a gain of 8 db.

More than one E2 or E2-E3 combination repeater may be used on a circuit, or at the same office on different circuits that may be switched together.

ceiver is a versatile device. It has been employed extensively as the variable reactance element in parametric amplifiers to provide extremely low-noise radio-frequency amplification.

REA Telephone Committee Makes Recommendations

The Telephone Advisory Committee of the Rural Electrification Administration reviewed the substantial progress achieved in rural telephony since enactment by Congress of the telephone amendment to the Rural Electrification Act at its meeting on Oct. 27 to 29 in Washington, D. C. The committee, in a statement, complimented REA Administrator David A. Hamil and his staff for the manner in which the telephone program is being administered.

The committee is of the unanimous opinion that the recent REA telephone staff reorganization is beneficial to all concerned, and assures a continued high degree of efficiency in administering a growing program. Compliments were also extended to REA on the consistent high quality of its official publication, *Rural Lines.*

The interest rate on REA loans was discussed by the committee at considerable length. Inasmuch as the REA Administrator has no authority over determining the rate, this authority resting entirely with the Congress of the United States, the committee made no specific recommendation with respect to the present interest rate on REA loans.

The committee submitted the following recommendations:

(1) *Loan Application Procedures.* A sub-committee has made a study of possible short-form loan applications to be used for supplemental loans. This report has been submitted to the REA administrator by the Telephone Advisory Committee with the recommendation that it be given consideration. In making this recommendation, the committee recognized the importance of maintaining adequate plant records in order to expedite loan applications under the proposed procedure.

(2) *Engineering.* Recommended that REA encourage borrowers to employ competent personnel who can work with their consulting engineers during the pre-loan and post-loan periods, since cooperation or lack of cooperation often influences the cost and quality of engineering services.

Also recommended that REA take action to encourage consulting engineering firms to place more highly qualified personnel in responsible field engineering positions.

Further recommended that REA continue and expand its development and research on engineering problems that are unique to the rural telephone program. It is felt that this will lead to greater economy in the telephone program and thereby improve loan security.

(3) *Safety.* Recommended that all safety programs be taken advantage of whether sponsored by REA, the borrowers, telephone associations or insurance companies. Consideration should be given by individual borrowers as to the desirability of becoming members of the National Safety Council.

(4) *Insurance.* The committee is concerned over the fact that insurance costs are rapidly becoming major operating expense items. It is, therefore, recommended that REA initiate a program for advising borrowers on ways to reduce insurance costs.

(5) *Availability of Funds.* In order that REA telephone borrowers may adequately meet the growing demands for more and better service in their operating areas, it was recommended that sufficient funds be requested to fulfill the financial requirements of rural telephone systems.

(6) *FCC Allocation of Frequencies.* Recommended that the REA administrator determine whether the proposed allocation of microwave frequencies for private line facilities not involving common carrier will have an adverse effect on the security of REA loans. Emphasis in making this determination, the committee stated, should be directed to those areas where such allocation would deprive REA borrowers of toll and private line revenue.

For the future, the committee suggested that further study be given to the problems involved in: (1) Upgrading of rural telephone service; and (2) further demands concerning extended area service.

West Coast Company Makes Three Staff Changes

Three major staff changes among general office personnel of the West Coast Telephone Co. were announced

R. A. PETERSON

recently by L. Gray Beck, vice president and general manager of the company.

Roy A. Peterson, general commercial superintendent, becomes general planning and studies engineer, as of Dec. 1. In this capacity, he will coordinate company fundamental planning, prepare rate analyses and planning, and make business conditions studies. Mr. Peterson has been with the West Coast company since 1936. He is a graduate electrical engineer.

J. L. MORRISON

James L. Morrison, director of general information for the company, becomes general commercial superintendent. Mr. Morrison is a former FBI agent and a graduate lawyer. He joined the company in August, 1956, after four

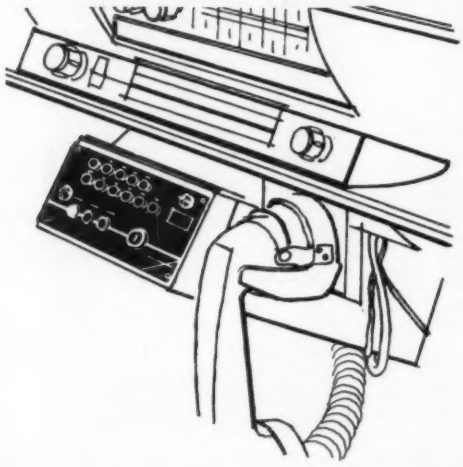
C. H. DICKEY

years as secretary-treasurer of the Nebraska Telephone Association. In his new capacity, Mr. Morrison will have general staff responsibility for all phases of commercial operation for the 72-exchange telephone system.

Clyde H. Dickey, general commercial operations supervisor, will move up to Mr. Morrison's post as director of general information. Mr. Dickey went to the West Coast company in 1939 as an instrument repairman, transferred to

NEW MOTOROLA PUSHBUTTON RADIOTELEPHONE

...A DYNAMIC EXTENSION OF RADIO ELECTRONICS FOR THE FINEST IN MOBILE TELEPHONE SERVICE



Field proven and in service—Motorola Pushbutton Radiotelephone stands ready to do-the-job for you. Fully automatic in operation, the system connects directly into your dial exchange—provides one to three subscriber loops serving up to ten radio telephones each.

With Motorola, prospective mobile and rural fixed subscribers will find radiotelephone service more appealing than ever—with a service level equal to the best you provide to your wire line subscribers. They will like Motorola's lighted numerals and positive pushbutton action which assures the proper number selection, even in the dark.

Why not build your radiotelephone profits with Motorola? You can rely on Motorola's research, installation and maintenance experience gained as the nation's major producer of commercial microwave and mobile 2-way radio systems. Motorola customer service includes working with you in planning a profitable system, utilizing REA-approved Motorola equipment, exactly suited to your present and future needs. Call or write today!

MOTOROLA PUSHBUTTON RADIOTELEPHONE

Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago 51, Ill., A Subsidiary of Motorola Inc.

McMinnville, Ore. in 1947 as commercial manager and then went to Beaverton, Ore. as district commercial superintendent.

He moved to his present position in Everett in 1955. In his new post, Mr. Dickey will be responsible for public information, public relations and advertising.

Financial Editor Says Telephone Good Bargain

Very seldom does a newspaper columnist take up the cudgel for a telephone company in explaining the financial results of its operations, but we ran across one writer who told his readers they were getting a good bargain in telephone service, compared to the earnings of the telephone company.

S. Oliver Goodman, financial editor of the Washington (D. C.) *Post and Times Herald* recently had the following to say about the Chesapeake & Potomac Telephone Co. in a story entitled "So You Think Phone Bills Are Too High?":

"The Chesapeake & Potomac Telephone Co. averages about $12.22 net income a year on each telephone in service in the District of Columbia.

"This is calculated on the company's report that it earned $7,513,991 in the 12 months ended Oct. 31, 1959. Telephones in service here at the end of October totaled 615,717, a gain of 23,491 over the same 1958 date.

"On the other hand, C&P has an investment of about $282 per telephone here. This is based on the company's estimate of $173,975,279 value for its plant.

"Figuring it still further, C&P is averaging 4.66 per cent on its total investment. In normal times this is considered a fair return on investment, but not in these days of high interest rates. "Currently, utilities of A-1 credit standing are borrowing money at a cost of 5 or more per cent. Potomac Electric Power Co. just last week sold a 15-million dollar bond issue at an interest cost of 5.1411 per cent.

"So the next time you feel tempted to complain about your telephone bill, just remember that C&P is providing you with service for an income of 4.66 per cent on its investment.

"That's about the rate of return the telephone company would get if it put its money into the comparatively riskless government bond market."

H. C. Ryon Recuperating

H. C. Ryon, vice president, Telephone Division of North Electric Co., has returned to Galion, O., following an operation at the Presbyterian-St. Luke's Hospital in Chicago.

Good Sense Native

"That good sense which nature affords us is preferable to most of the knowledge that we can acquire."—COMINES.

W. F. Roberts Retires, 3 Appointments at LT&T

Walter F. Roberts has retired as personnel director of the Lincoln (Neb.) Telephone & Telegraph Co. effective Dec. 1.

W. F. ROBERTS

Lloyd W. Cleveland, general traffic superintendent, becomes general traffic superintendent and personnel director.

Joe H. Hartley, formerly editor of the company magazine, the Lincoln *Telephone News*, has been appointed personnel supervisor, and Kenneth W. Clinefelter, formerly editor of the Fairbury *Daily News*, succeeds Mr. Hartley as editor of the company publication.

L. W. CLEVELAND

Mr. Roberts, who was a commissioner with the Nebraska Railway Commission for six years, joined the Lincoln company in 1952.

Prior to his commission service, from 1943 to 1946, he was executive director of the Nebraska National War Fund.

J. H. HARTLEY

He also aided the war effort from 1941 to 1943 in the position of Nebraska civilian defense coordinator, to which he was appointed by the governor.

Prior to that, for 10 years, he had been secretary of the Saunders County National Farm Loan Association.

His background includes work in real estate and insurance and jobs as a farm manager and as a county agricultural extension agent.

He is a graduate of the University of Nebraska and served in the Navy during World War I. He is a native of O'Neill, Neb.

Mr. Cleveland joined the company in 1934 as a salesman in the Lincoln commercial department. Later, he went to York as assistant area commercial manager and in 1941 was appointed district clerk at Hastings.

KENNETH CLINEFELTER

During World War II, he served with

(Continued on page 45)

MONSANTO POLYETHYLENE formulations are based on long experience in supplying the specialized needs of the Wire and Cable Industry. That's why you can always count on a correct answer to your specific insulation problem, when you call Monsanto Chemical Company, Plastics Division, Springfield 2, Massachusetts.

*OPALON: REG. U.S. PAT. OFF.

Monsanto

MPE 10 medium molecular weight natural, with non-discoloring antioxidant; primary insulation for telephone cable, power cable, control cable, and general insulation use.

11302 medium molecular weight black, with non-discoloring antioxident; for line and drop wire insulation, weather-resistant primary and support wire insulation, general purpose jacketing.

12203 high molecular weight natural, with non-discoloring antioxidant; primary insulation for telephone, power, and control cable; insulation requiring superior toughness, maximum stress crack resistance.

12253 medium molecular weight natural, with non-discoloring antioxidant; for primary insulation for coaxial cable, power cable, telephone cable, and general insulation use.

14202 high molecular weight black, with non-discoloring antioxidant; telephone and power cable jacketing; all jacketing and insulating applications requiring maximum stress crack and weather resistance.

Monsanto has also developed a complete line of Opalon* Vinyl compounds for wire and cable insulation.

Are you receiving your monthly "WIRE RECORDER"? Use coupon to get this useful news bulletin published by Monsanto.

Monsanto Chemical Company,
Plastics Division,
Springfield 2, Mass.

Please place my name on your mailing list to receive free monthly copy of "WIRE RECORDER"

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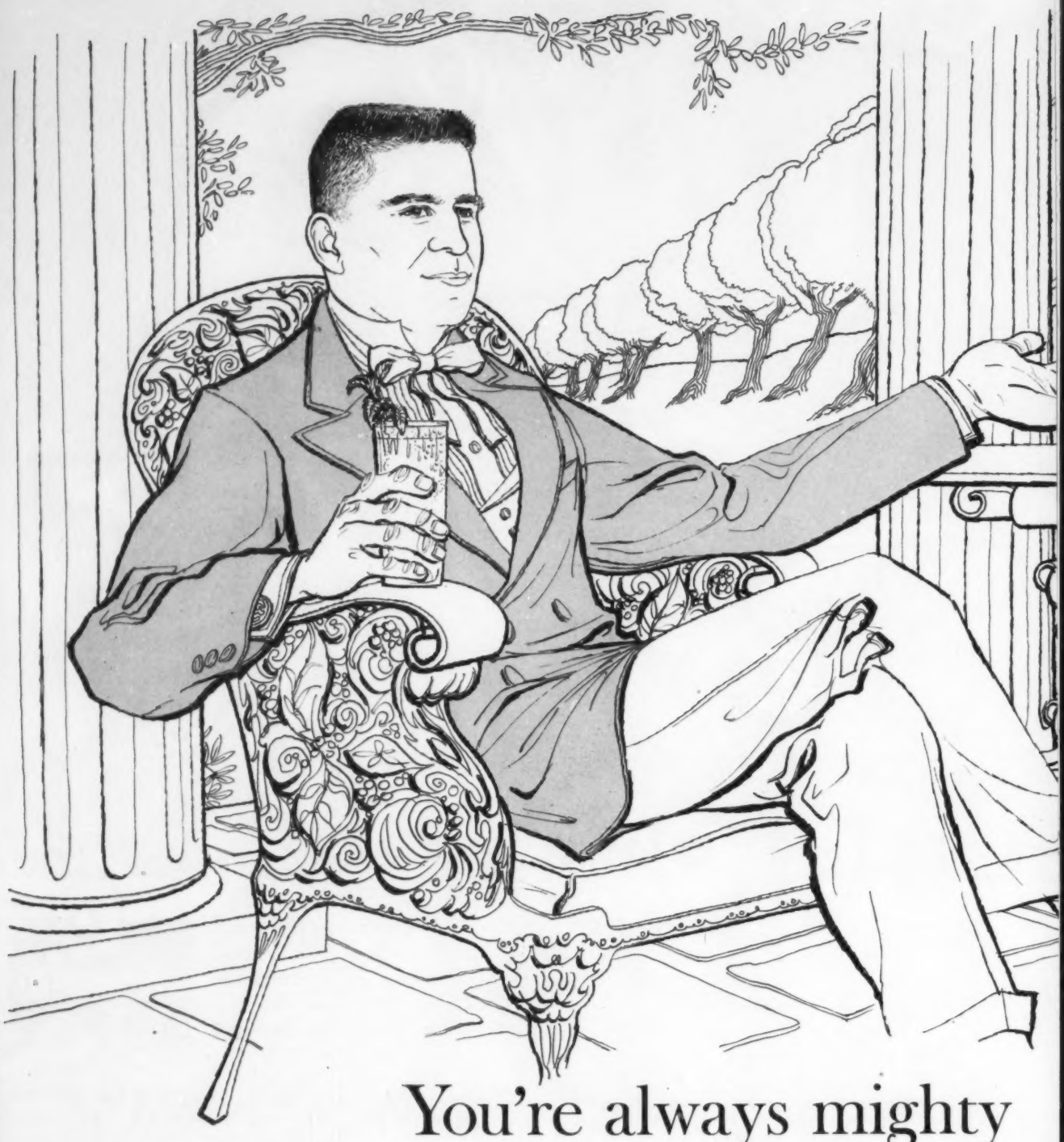

You're always mighty

The tradition of hospitality for which the South is famous is *our* tradition, too—in Atlanta and in our other supply "plantations" from coast to coast.

We're always mighty pleased to have you call, because we really appreciate your orders for construction materials and supplies more than we can say. We enjoy doing business with you because you're such nice folks. You get the same hospitable reception

STROMBERG-CARLSON

A DIVISION OF **GENERAL DYNAMICS CORPORATION**

ATLANTA: TRinity 5-7467 • **CHICAGO:** STate 2-4235 • **KANSAS CITY:** HArrison 1-6618 • **ROCHESTER:** HUbbard 2-2200 • **SAN FRANCISCO:** OXford 7-3630

welcome!

whether you want a washer—or a carload of cable!

Our warehouse facilities, trained men and huge variety of supplies are at your beck and call. So you keep coming back. It's our pleasure to serve you.

Frank Kasper is one of our Atlanta hospitality specialists.

the Air Corps in Africa and later attained the rank of first lieutenant.

In 1946, he returned to the company to become area manager at York, after which he was staff assistant in the general commercial department at Lincoln and traffic chief in the general traffic department, before his appointment as general traffic superintendent in 1956.

He attended the University of Nebraska and is a graduate of the Public Utilities Executive School of the University of Michigan.

Mr. Hartley was employed as a general office messenger in 1913 and later served in the engineering department before his appointment as commercial artist in the general commercial department.

He was named assistant editor of the Lincoln *Telephone News* in 1943 and became editor of the magazine in 1953.

Mr. Clinefelter attended the School of Journalism at the University of Omaha and became associated with the Fairbury *Daily News* in 1948 as wire editor.

He later was city reporter and city editor before joining the Marshall County *News* in Marysville, Kan. as editor in 1953.

He returned to the Fairbury paper the following year as news editor and has been editor of the paper since 1957.

Sanders Manager General Waterworks, Central, North

A. W. Sanders, of New London, Ia., has been elected executive vice president and general manager of all telephone properties in Iowa, Illinois, Min-

A. W. SANDERS

nesota and North Dakota owned by the General Waterworks Corp. of Philadelphia, Pa.

The system comprises eight operating companies with 99 exchanges and 54,420

subscribers in the four-state area. All the exchanges have been converted to dial operation since 1955, with the exception of recent acquisitions where dial conversion programs are now in progress.

The general offices of the Iowa-Illinois Telephone Co., Western Illinois Telephone Co. and Southeast Iowa Telephone Co. are located in New London, Ia.

The general offices of the Minnesota Telephone Co. and of the Marshall County Telephone Co. are located in Minneapolis, Minn.

Mr. Sanders will continue to reside in New London, Ia., where he has been operating vice president of the Iowa-Illinois Telephone Co. and of the Western Illinois Telephone Co. since 1951.

Other changes of company officers include the election of R. R. Hanson of Minneapolis as vice president and division manager of the Minnesota properties.

Also, C. K. Byers, chief engineer of Iowa properties, was elected vice president of the Iowa-Illinois Telephone Co. and of the Western Illinois Telephone Co.

Tips for Trip

For a sound holiday trip:

Don't try to cover too many miles.

Be prepared for heavy holiday traffic.

Get an early start, and pause to rest occasionally.

Don't speed.

Don't drink before driving.

Be courteous on the road.

Paul Parsons of Wisconsin Named to BDSA Reserve

Paul R. Parsons of Rhinelander, Wis., general manager of the Headwaters and Rhinelander Telephone Cos., has been appointed to the National Defense Executive Reserve of the Business & Defense Services Administration, U. S. Department of Commerce.

Mr. Parsons, after leaving Creighton University in Omaha, Neb., started as a groundman for the Northwestern Bell Telephone Co. in 1926 and advanced through jobs as lineman, installer, testboard man and district office clerk.

In 1930, he joined Central Telephone Co., then headquartering in Omaha, and worked in the accounting, engineering and purchasing departments over a period of 11 years.

In 1941, he joined the Kittanning (Pa.) Telephone Co. as an auditor. In 1942 he entered the Armed Forces, returning to Kittanning in 1945.

Leaving that company in March of 1950, he went to the Rural Electrification Administration as an auditor for a brief period, and in 1951, became general manager of the Rhinelander Telephone Co. He is presently a director of that company, and is a past director of the Wisconsin State Telephone Assso-ciation.

P. R. PARSONS

Mr. Parsons is of a telephone family. His father was affiliated with Northwestern Bell at Bismarck, N. D.; a brother was employed by the same organization; another brother was vice president, in charge of sales, for Kellogg Switchboard & Supply Co., and a sister was employed by the Public Service Co. of North Dakota as a secretary.

The BDSA Reserve, composed of business and professional men, has been designed to staff the operation of a production agency in time of national emergency.

All New York City To Have DDD By Mid-1960

A five-year, 40-million-dollar program to bring direct distance dialing to more than 43 million telephones in New York City will be completed Feb. 7, 1960, the New York Telephone Co. announced recently.

"This will mean that virtually all customers in New York City and Nassau and Westchester counties will be able to dial their own station-to-station calls to any of more than 53 million telephones across the country and in Canada," a company spokesman said.

So far this year, the new service has gone into effect for more than one million customers in New York City and Nassau and Westchester counties. Recently DDD was scheduled to be provided for almost 787,000 more users in Queens, Brooklyn and Nassau County.

On Feb. 7, 1960, it will go into effect for about 800,000 customers in the Bronx, northern Manhattan and White

NEW! from S&G

THE MODEL "RC" DEHYDRATOR

AUTOMATIC IN OPERATION

NEW MODEL "RC" cabinet mounted

The Model "RC" Dehydrator is designed to supply dry air to aerial and underground telephone cables. It is especially suited for small installations of 80 miles or less of cable. Wall or relay rack-mounted, the Model "RC" is approximately 24" high, 28" wide and 8" deep. Operating voltage is 115 volts, 1 phase, 60 cycle, and the output is 700 standard cubic feet per day maximum, with a dewpoint of —65°F. Other outstanding features are:

- Hi-Lo pressure switch for alarm
- Humistat for alarm above 4% Relative Humidity.
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Plains and Yonkers who do not already have it.

Telephone company personnel began instructing these customers on Nov. 23 in how to dial distant places direct. The instruction will continue until Feb. 7.

Mount Vernon, New Rochelle and Pelham subscribers who do not have the service, are scheduled to get it within a few weeks after those in White Plains and Yonkers.

City Island—the last community in New York City to be served by manual equipment — will have direct distance dialing early next summer, at the same time as its service is changed to dial. Customers in Oyster Bay and Bayville, L. I.—the last manual central offices in Nassau County—will be able to dial distant places direct next summer.

FARMER AND TELEPHONE

Continued from page 28

like a Gill Selector is used. The telephones on such a line are local battery, but the line may be connected to a PBX or a common battery key system by means of special terminating equipment.

Since an intercom line on a farm would usually include outside plant, we believe that the line should be dry and the stations should be "local battery talking," so that they may be connected either to the dial main line or the intercom line. This eliminates the need for a battery to supply talking current to the intercom line.

Since 20-cycle current for ringing on an intercom or private line cannot be obtained from the central office, and the installation of a ringing machine in a farm home would be impracticable, why not use old-fashioned hand generators? They will operate for years without attention and we feel sure that none of the farmers with whom we are acquainted would object to turning the crank.

We feel that "auxiliary service for the farmer" is a field that every company having rural lines should investigate and develop. Of course, many farms are too small to use all of the auxiliary services we have mentioned in this article. However, even the owner of a one-man farm may be interested in some service at the barn if his work is such that he spends much of his time there. The sales plan could be much the same as that now used for city customers. A competent salesman could visit a farm and prepare a plan that would give the farmer *complete* telephone service, tailored for that particular farm. If the prospect does not buy

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the complete plan he may accept part of it.

There remains one more subject to be discussed: How to make it possible for the farmer to use his dial line as a neighborhood conference circuit, or for long conversations with a neighbor, without interfering with the service of others or calls through the central office. We will present some thoughts on this subject in the final section of this article.

Don Pearce Joins Staff Of Riceville, Ia. Company

Don Pearce, son of Clifford C. Pearce, president of Farmers Telephone Co., Riceville, Ia., has joined the company staff as assistant to his father, and will be in charge of technical operations.

Don has had 14 years of telephone experience. While still in high school, he started working on Saturdays and after school repairing Farmers Telephone Co. central office equipment.

Since then he has installed over 50 complete dial telephone exchanges. During 1956, he supervised installation in Cuba for the International Telephone & Telegraph Corp.

While serving in the Armed Forces, he was stationed in Germany where he maintained German type dial equipment. During recent months, he was in charge of the installation of dial equipment for the combined system of Tama and Toledo, Ia.

Mr. Pearce's first job as assistant will be the installation of the new dial central office in Riceville.

DON PEARCE

THE FUTURE OF TELEPHONE RATE STRUCTURES

Continued from page 21

charges based on the subscribers' actual usage of the company's facilities.

(2) An increase in revenue when there was a higher usage of plant without a rate case.

(3) A smaller problem of exchange boundaries and EAS demands.

(4) Better subscriber acceptance of telephone charges.

(5) A better basis for toll settlement with MMM's purchased in bulk.

As to the disadvantages, I will let you speculate on those for several years ahead.

To come down out of the clouds a bit, I would like to mention a few changes that are taking place now in telephone service and rates for the future in Virginia.

Recently, the Virginia commission and its engineering division held conferences with the Chesapeake & Potomac Telephone Co. on a long range future program for its service in Virginia. The C&P plans, with the consent of the commission, to eliminate, gradually, four-party residence service in the base rate area, two-party business service, and eight-party rural service.

The reason for the changes is that old American spur to our business world that the customer doesn't like the service and it's too expensive to serve, with the ever-changing equipment, the few who wish to retain an outmoded service.

The four-party residence service in base rate areas has decreased in popularity where it is offered. Only about 5 per cent of new connections are for four-party service. The percentage of four-party residence service has decreased steadily from 11.9 per cent in 1950 to 6.5 per cent as of Aug. 1, 1959. Of the number now served, it is estimated that there are several thousand who have requested higher grade service, which will be furnished in the near future.

Four-party service has the disadvantage of less privacy, less availability, more delays, customer complaints and interference. In certain instances, direct dialing of toll calls will not be available to four-party subscribers. It is proposed to withdraw the four-party offering, exchange by exchange, when regrade orders have been reduced to an insignificant number and four-party residence service is less than 10 per cent of all residence main services in the rate area, or less than 25 in number. A date in the future will be set for withdrawal of the service to any remaining subscribers. The average increase for regrade to two-party service is 83 cents per month.

The demand for two-party business

service has decreased year by year from 7,214 subscribers in 1948 to 2,942 subscribers in 1959. There are no two-party business services in nine exchanges, and less than 20 in each of 112 exchanges. Obviously, it is difficult to get a two-party line fill under these circumstances. The objections to mixing two-party business and two-party residence are known to all of you. The two-party business offering will be withdrawn, exchange by exchange, when regrade orders have been reduced and the two-party business comprises less than 5 per cent of the total business main services, or less than 20 in number. A future date will be set for withdrawal from existing subscribers.

The disadvantages of eight-party rural service are too familiar to this audience to go into detail. As direct dialing is offered, it will not be available to eight-party subscribers. Where rate areas have been expanded and higher grades of service offered, the number of eight-party subscribers have dropped sharply. In one exchange, Chincoteague, there are no rural line subscribers and other exchanges have very few. It is proposed, after a study on an exchange by exchange basis, to extend present rate area and/or establish additional rate areas around present rate areas, in which rate areas eight-party rural service would not be offered and one, two and four-party service would be offered at rates higher than the base rates.

Within the last month the Farmers Mutual Telephone System of Shenandoah County has filed with the commission an optional rate for a trial period whereby four-party residence and business service will be offered throughout its rural area at a flat rate. The residential rate is $2.25 above the multiparty rate. Since four-party service is offered in the base rate area, there will be a band outside where the mileage will be less than the flat rate, and this must be served at existing rates and mileage. We will watch with interest the acceptance of this better service by subscribers of this company.

The objective of these plans is to provide subscribers with better service and to use telephone plant more effectively. It will certainly result in higher grade telephone service to all subscribers.

I agree with statements by authorities that there have been more changes and improvements in telephone service in the years since World War II than in all the previous history of telephony, and it is predicted that the next 15 years will show as great a change as the last 15. One of the great changes

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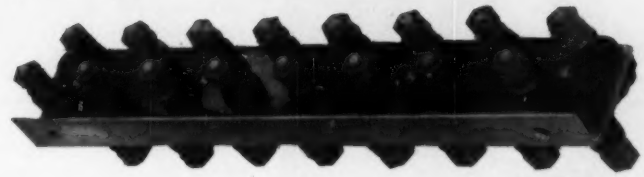

SIXTEEN PAIR
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SIX PAIR
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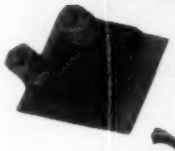

ONE PAIR
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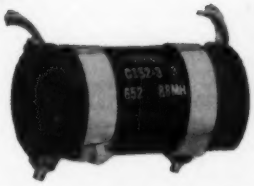

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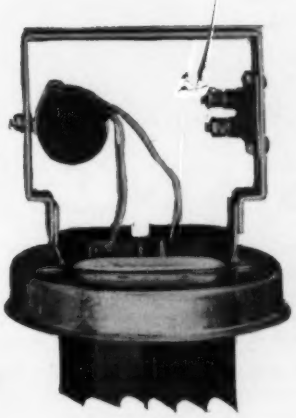

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may be in the rate structure, and these thoughts as to the possible direction of change are offered for your consideration.

Saunders, Wopat, Reese Appointed by General

Burton W. Saunders, president of General Telephone Co. of Illinois, Bloomington, will become chairman of the board of the Illinois company on Jan. 1. Mr. Saunders, who has served in the telephone industry for more than 30 years, will be succeeded as president by Robert M. Wopat, now president of General Telephone Laboratories, Inc., Northlake, Ill.

As chairman of the board of the Illinois company, Mr. Saunders will succeed Walter Dakin, of Madison, Wis., who will continue as chairman of General Telephone Co. of Wisconsin.

Mr. Wopat will be succeeded as president of General Telephone Laboratories by Frank D. Reese, presently director of engineering for General Telephone Service Corp., New York.

After attending the University of Wisconsin and Northwestern University, majoring in economics and accounting, Mr. Saunders served with the

B. W. SAUNDERS

Commonwealth Edison Co. in Chicago for five years. He began his telephone career in 1929 when he joined General's Wisconsin predecessor company as statistician and assistant treasurer.

In 1938, he was transferred to General's Indiana predecessor company as commercial and traffic superintendent. He later held the position of vice president and general manager for the General System's Indiana, Kentucky and Illinois companies, as well as the position of vice president of their Michigan company. In 1949, Mr. Saunders was elected president of the General Telephone Co. of Illinois.

R. M. WOPAT

Following graduation from the University of Michigan in 1936 with an electrical engineering degree, Mr. Wopat became associated with the Gary Group of operating companies. He held his position there until 1940, when he became a consulting engineer in Fort Wayne, Ind. After the outbreak of World War II, he joined the United States Navy, attaining the rank of lieutenant when he was discharged in 1946.

Upon his return to civilian life, he joined the Texas Telephone Co., Sherman, as plant superintendent. In 1949, he was appointed plant supervisor and division plant engineer of the General Telephone Co. of Pennsylvania, and

F. D. REESE

one year later advanced to general plant superintendent and operating vice president, General Telephone Co. of Ohio.

In 1954, he became president of the General Telephone Co. of Upstate New York, a position which included the presidency of General Telephone Co.

of Vermont, Tri-State Associated Telephone Co., and Delaware Valley Telephone Co.

Mr. Wopat was elected vice president in charge of research and engineering of Automatic Electric Co., and president and director of research of Automatic Electric Laboratories, Inc., in 1956. He retained the presidency when that research and development organization was expanded to become General Telephone Laboratories in 1957.

A graduate of the school of engineering at Cornell University, Mr. Reese has been with the General System since 1939, when he was employed as equipment engineer for the General Telephone Co. of Pennsylvania. He continued in this capacity until 1942, when he was commissioned in the U. S. Army Signal Corps and served in the European theatre.

In 1945, he returned to the Pennsylvania company, being subsequently promoted to the positions of equipment engineering supervisor and chief engineer.

He became director of engineering for the General Telephone Service Corp. in New York in 1957.

Utility Sales Seminar To Be Held by AMA

A seminar on "Selling Utility Services to Industrial and Commercial Customers" will be held by the American Management Association on Jan. 25 to 27 at the Hotel Astor, New York City.

Directed towards utility executives—telephone, telegraph, electric, gas and transportation—the seminar will deal with methods of improving marketing effectiveness in the special ways required to meet the needs of selling commercial and industrial subscribers.

It will feature three case studies of successful commercial and industrial merchandising programs: One each from a telephone company, gas company and electric company.

Stanley F. Damkroger, assistant vice president of the American Telephone & Telegraph Co., is co-chairman.

The seminar outline is as follows:

(1) Special problems of selling utility services to industrial and commercial customers.
(2) Organization of the marketing function.
(3) Marketing planning in the utility services field.
(4) Problems of coordinating with other elements of the business—finance, research and development, engineering, production, etc.
(5) The use of marketing research.
(6) The use of advertising and mass media techniques in selling industrial and commercial customers.
(7) Determining and developing new markets.
(8) Case study sessions in successful utility service marketing programs.
(9) Organization of the field sales force.
(10) Sales personnel, selection and training.
(11) Appraising field sales force performance.
(12) Summary and conclusion.

Cost of the seminar is $150 to members of the American Management Association and $175 to nonmembers.

A block of rooms will be held by the Hotel Astor until two weeks before the meeting.

Those interested in registering are requested to contact the Registrar, American Management Association, Inc., 1515 Broadway, New York 36, N. Y.

Pen Set Stimulates Long Distance Traffic

To appeal to consumers' impulse buying, the American Telephone & Telegraph Co. in its merchandising program is using a practical, point-of-purchase display piece, a colorful ceramic desk pen set.

The pen sets are distributed to motels throughout the country for use on their registration or check-in desks.

On the front of the desk pen set (see illustration) is a message welcoming guests with the suggestion "Why Not Telephone The Folks Back Home and Let Them Know You Arrived Safely," and a miniature 3-D telephone in ceramic. A message on the back, reminds the desk clerk to "Ask If We Can Make Reservations Ahead."

These pen sets have been in use for close to two years. They are an integral part of the company's over-all merchandising program, which Bell System sales engineers credit with helping to increase long distance telephone traffic.

These desk pen sets were designed

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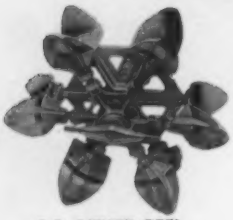

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and produced by Contemporary Ceramics of Chatham, N. J., a firm that specializes in creating and producing a complete line of 3-D custom ceramic pieces, especially for promotional uses.

PUBLIC RELATIONS

Continued from page 24

ployes, thus feeding the "grapevine" with factual information instead of rumors.

Even the smallest telephone company could use the employe meeting and the management or employe newsletter to advantage.

Larger companies will also want to investigate the employe magazine. *The News*, The Southwestern States Telephone Co. publication, is sent monthly not only to active and retired employes but to newspaper editors, chamber of commerce managers, and others, thus becoming of additional public relations value.

At various employe meetings, and in letters and other company printed pieces, it should always be stressed that what the employe does and says, both on and off the job, reflects upon his company. Employes are urged to be active citizens of their communities and to take part in civic affairs. The employe is a mirror and through the employe the public sees his company.

Informing employes is one of the first steps in an active, effective public relations program. Another important aspect is informing the public of the company's achievements and activities through publicity and effective press relations, the topic to be discussed in the next article in TELEPHONY.

(To Be Continued)

C & D Batteries Adds Swift to Atlanta Sales

Joseph L. Swift of Atlanta, Ga., is now representing C & D Batteries, a division of The Electric Autolite Co. Mr. Swift is associated with Mark C. Pope Associates, the division's Atlanta sales organization. Henry E. Jensen, vice president of C & D Batteries, announced the appointment.

C & D manufactures industrial storage batteries for the telephone industry; for powering electric lift trucks; and for railroad, mining, control, and other industrial applications. The division's main plant is located in Conshohocken, Pa.; and sales and service offices are in all principal cities.

Mr. Swift was previously with the Atlanta Baking Co. and is a graduate of the Georgia Institute of Technology Engineering Evening School.

THE WOMEN'S PLACE

Concluded from page 26

woman's office is her home all day. She needs individuality here as in other areas. Maybe, it's blue sky thinking, but why not an office chair, whose upholstery can be changed every so often?"

While such suggestions may provoke a masculine smile, this comment by a woman office manager, Betty Maum of the Quaker City, is worthy of thoughtful consideration. Said Miss Maum, "It's much easier for a company to attract female employes when the furniture and general decor are attractive, and this extends all the way into the lounge area."

As for color in office surroundings, women have dislikes for certain colors; indeed, some persons, both men and women, have been known to have actual superstitions and emotional reactions regarding certain colors. In this category is green, which one attendant at the conference said she does not like in an office, but which is currently quite popular in certain types of office equipment.

With these feminine comments voiced to the makers of office equipment, color interest and "office home" decor may be in for various woman-inspired changes in the next few years.

•

The telephone has definitely become a part of the interior-decorating picture. Look in almost any woman's magazine at a photo of an attractive room, and you'll find a telephone used to best advantage as an accent.

"An old friend in new guise, today's color telephones are an integral part of well-planned interior decoration, quite as important as a picture or an ornament," one national magazine told its readers, commenting on a beautiful bedroom setting featuring a beige instrument.

•

A bit of advice for telephone company people to take to heart or to pass on to the girls at the doctor's answering service.

When holidays are in the offing, and past experience has shown that doctor clients take advantage of the holiday season for traveling, switchboard operators would profit by the example set by girls of the Santa Clara County (Cal.) Medical Society Physicians' Exchange. They sent a letter to every member reminding him to let the service know if he would be on call, and who would cover for him if he were out of town.

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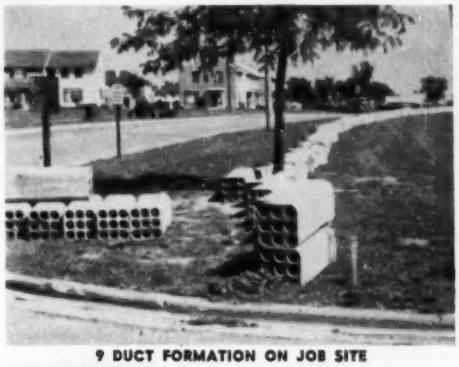

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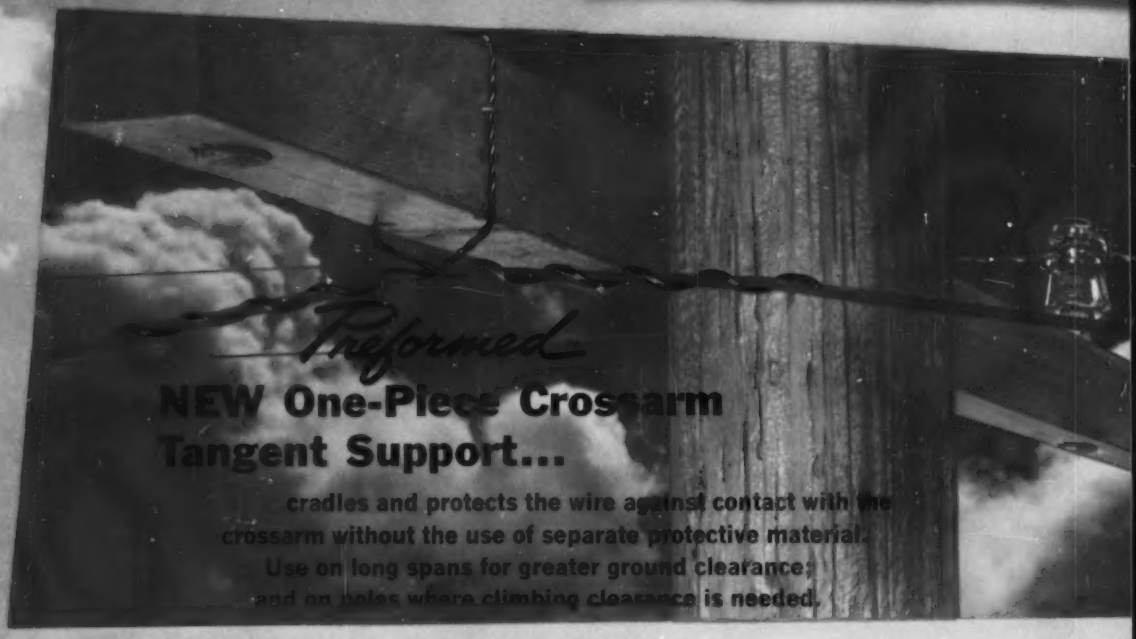
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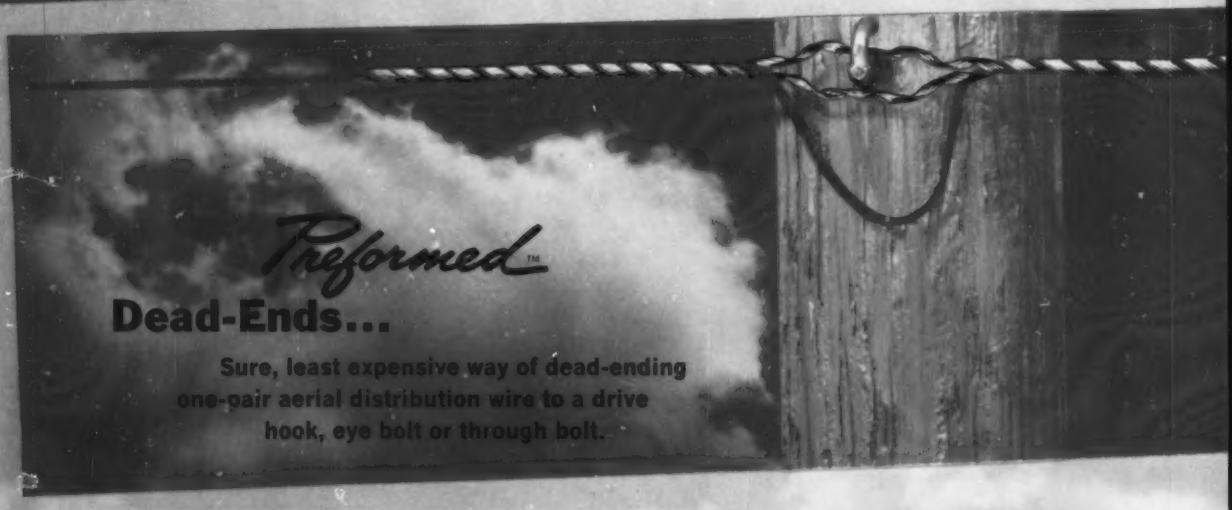
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These new Klein Replaceable Gaff Climbers assure maximum quality and safety. We recommend leg irons be replaced after three sets of gaffs have been used.

The easily replaceable gaff is held in position by a self-locking screw. Full impact is absorbed by the gaff and leg iron. No load is transmitted to the screw.

Adjustable to 14½, 15, 15½, 16, 16½, 17, 17½, 18, 18½ and 19 inches. Made in matched pairs, right and left. Available with triangular ring at ankle or riveted ankle loop. Aluminum finish. Every climber individually tested.

WRITE FOR BULLETIN 559

Bulletin 559, giving full information on Klein Replaceable Gaff Adjustable Climbers, will be sent on request.

ASK YOUR SUPPLIER

Foreign Distributor: International Standard Electric Corp., New York.

Mathias KLEIN & Sons
1200 McCORMICK ROAD • CHICAGO 45, ILLINOIS

Helpful Literature

AERIAL ELBOW—Design, engineering and safety features of the Holan elbow, are graphically illustrated in a new six-page brochure from the manufacturer, Holan Corp.

Technical information and construction details of all three models of the aerial Elbow—HD-42, HD-50 and HD-55—are included in the folder, along with descriptions and illustrations of special features and optional equipment.

The Holan Elbow is used by utilities and municipalities for overhead work. Request HL545.

•

COPPER-PLATED STEEL WIRE — A new brochure now available from National-Standard Co. describes Copperply,® its copper-plated steel wire.

The brochure gives detailed information on the use of Copperply for bare and insulated communications wire, rural distribution wire, drop wire, guy and messenger strand, overhead ground wire, lashing wire, aircraft antenna, masonry tie wire, hose reinforcement, and critical electronic applications.

Specifications are listed for gauge tolerance, scope and grade, elongation, resistivity, torsion, bending, wrapping and ferroxyl tests. Properties tabulated include sizes vs. copper thickness, breaking load, weight and resistance.

Copperply is described as being manufactured by a continuous spiral plating process owned by National-Standard. The wire is REA-approved and is said to conform to ASTM specification B-227 and federal specification QQ-W-345.

It is available, the company says, in weld-free lengths to 1000 pounds. Standard 220-pound coils, 800-pound reels, and 1000-pound reelless coils are available. Request HL546.

•

CA CONDUIT—A conduit with flush coupling attached at the factory is described in a data sheet from the Orangeburg Mfg. Co.

The conduit is said to cut cost and save time because:

(1) Installation is a "one-step" operation with no separate couplings to handle or assemble on the job.

(2) There are no separate coupling cartons to load or unload, handle, store or transport to the job.

(3) Flush coupling eliminates necessity for staggering joints — less cutting and tooling on the job.

The conduit (for concrete encasement) is now available, Orangeburg reports, in 2, 3, 4, 4½ and 5-inch sizes.

The CA conduit is claimed to be installable up to 26 per cent faster. The coupling is described as being made from an exceptionally tough plastic which produces a self-sealing watertight joint without cement or adhesives. Request HL547.

•

CEILING DUCT—A new data sheet dealing with the use of No. 3000 Wiremold as a ceiling duct for telephone installations in a reinforced concrete multi-storied office building has been released by the Wiremold Co.

The data sheet, A-12, is said to point out how the economies realized are re-

TELEPHONY PUBLISHING CORP.
608 S. Dearborn St.
Chicago 5, Ill.

Please have the manufacturer send me without obligation the literature indicated by the following numbers:

HL545_____; HL546_____; HL547_____; HL548_____;

HL549_____.

Company.....

Street.....

Town and State.....

12/19/59

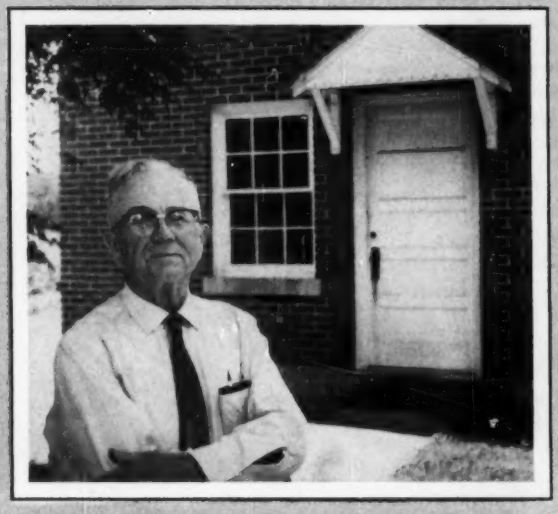
RAYTHEON

in the power field

NEWS ABOUT RAYTHEON TELEPHONE POWER SUPPLIES

Raytheon Company, Industrial Apparatus Division, Manchester, New Hampshire

RAYTHEON RECTICHARGER STILL IN SERVICE AT PEOPLE'S MUTUAL (VA.) AFTER 20 YEARS



Mr. E. B. FITZGERALD, president of People's Mutual Telephone Company with headquarters at Gretna, Virginia. The company founded by Mr. Fitzgerald's father 80 years ago serves over 1,600 subscribers in Gretna, Hurt and Renan, Va. Raytheon battery chargers are used in each of the three central offices.

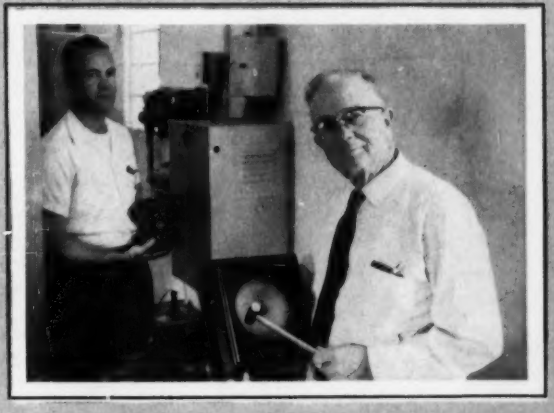
Unit installed in December, 1939 when 80-year-old-company switched to dial

"Ours is a concern that grew from the most humble beginnings", explains E. B. Fitzgerald, president of People's Mutual Telephone Company, now headquartered at Gretna, Virginia.

Mr. Fitzgerald goes on to explain that his father established a primitive communications system between his home and office some 80 years ago--the first installation using a large box-like diaphragm which acted as both mouthpiece and receiver.

When the company converted from magneto to dial in December, 1939, a Raytheon Recticharger was installed. Since that time, Mr. Fitzgerald reports, "despite the fact that our subscriber list has grown over fourteen times, the 3-ampere, 50-volt battery charger has performed its task with top efficiency, without failure or maintenance problems". Each of the company's three central offices is now equipped with a Recticharger.

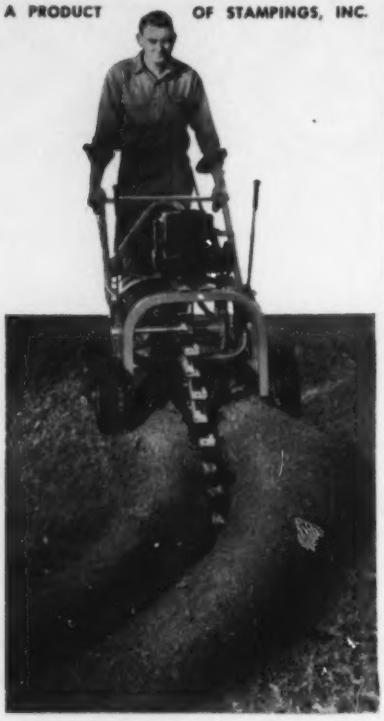
E. B. FITZGERALD and E. B. JR. compare modern dial telephone with early telephone instrument used by the elder's father 80 years ago. The senior Fitzgerald demonstrates an early method of "ringing" by striking the diaphragm with a rubber hammer to attract the distant party. The twenty-year-old Raytheon Recticharger is on the wall between them; batteries are at bottom left.



To learn about the Raytheon 1960-model telephone power supplies introduced at the U.S.I.T.A. convention, please write to Raytheon Company, Manchester, N. H., for the latest product data.

In the power field...Raytheon power supplies for: PBX · PABX · MANUAL · STEP-BY-STEP X-BAR · AUTOMATIC TOLL TICKETING · ELECTRONIC SWITCHING · CARRIER · MICROWAVE

A PRODUCT OF STAMPINGS, INC.



THIS TRENCH IS COSTING ONLY 1 CENT PER FOOT

with the

POW-R-SPADE TRENCHER

Unsolicited performance reports from actual users state that POW-R-SPADE narrow trenches cost only 1 cent to 3 cents per foot, *including labor.* (Many report much less than 1 cent per foot.) Digging speed varies from 1½ ft. to 17 ft. per minute depending on soil conditions. POW-R-SPADE is light, rugged, with minimum of maintenance. Shipped *completely* assembled. Neat, fast, professional trenches—3 in. wide to 24 in. deep, or 4 in. wide to 18 in. deep Send coupon today.

One man can transport from job to job.

Stampings, Inc., 321—24th St., Rock Island, Ill.
Please send literature on POW-R-SPADE:

NAME

COMPANY

STREET

CITY STATE

flected in both wiring costs and in the cost of structure. Request HL548.

•

FREQUENCY METER — A 21-page bulletin on the newly available Frahm® standard and precision resonant reed frequency meters—portable and switchboard models—2½-inch diameter to 9-inch diameter, has been announced by the James G. Biddle Co.

Frahm "Precision" frequency meters, which are reported to have guaranteed permanent accuracies of ± 0.1 per cent of calibrated frequency, are offered for the first time. Several ranges in miniature panel - instruments are available.

Frahm meters in miniature, switchboard, and portable types are available in various ranges between 10 and 1700 cps. and signal voltages from millivolts upwards, the bulletin says. They are designed for continuous operation and are independent of wave form and exact input voltage.

Little or no adjustment, maintenance, or repair of any kind is said to be required, even in applications requiring continuous operation for many years.

Complete information, characteristics, and prices are given in the bulletin. Request HL549.

Ramsdell Named Highway's Eastern Utility Sales Head

Charles F. Ramsdell has been appointed Eastern regional sales manager of the Utility Division of Highway Trailer Co., it has been announced by D. V. Wedeman, utility sales manager.

Mr. Ramsdell was, for four years, associated with the Halline Utility Equipment Co., Portland, Ore., and in the last three years, as regional manager, Eastern Division. He also has had seven years experience in line construction with the Southern California Edison Co.

For two years, he was sales engineer for the McCabe-Powers Auto Body Co. of Berkeley, Cal.

A U. S. Army veteran, he spent three years in the South Pacific during World War II.

Mr. Ramsdell was born in Dexter, N. Y., and was educated in the elementary and high schools there.

His business headquarters will be at 15 Jolly Lane, Levittown, Pa.

Highway Trailer Co. is a wholly-owned subsidiary of Highway Industries, Inc., and has plants in Edgerton and Stoughton, Wis.; Hazleton, Pa.; and a factory branch in Newark, N. J.

The Utility Division is one of the nation's major producers of public utility equipment used for the construction and maintenance of telephone and wire lines.

The second division, the Truck-Trailer Division, develops and manufactures an extensive line of commercial truck-trailers and is a leading producer of cargo-containers.

Finkelstein Appointed Head Of Research by Stromberg

Dr. Nisson A. Finkelstein has been appointed assistant vice president and director of research of the Stromberg-Carlson Division of General Dynamics Corp., according to Dr. Royal Weller, the division's vice president of engineering.

DR. N. A. FINKELSTEIN

In this position Dr. Finkelstein succeeds Lynn C. Holmes, who has been named director of engineering operations.

Prior to joining Stromberg-Carlson, Dr. Finkelstein was assistant director of the scientific bureau of the Bausch & Lomb Optical Co., a position he held for the past three years. He had been with Bausch & Lomb since 1950, when he joined that company as a research physicist.

A native of Milton, Mass., he was graduated from Harvard University in 1945, and received his doctorate in physics from the Massachusetts Institute of Technology in 1949.

He served as a radar field engineer with the U. S. Navy in 1945.

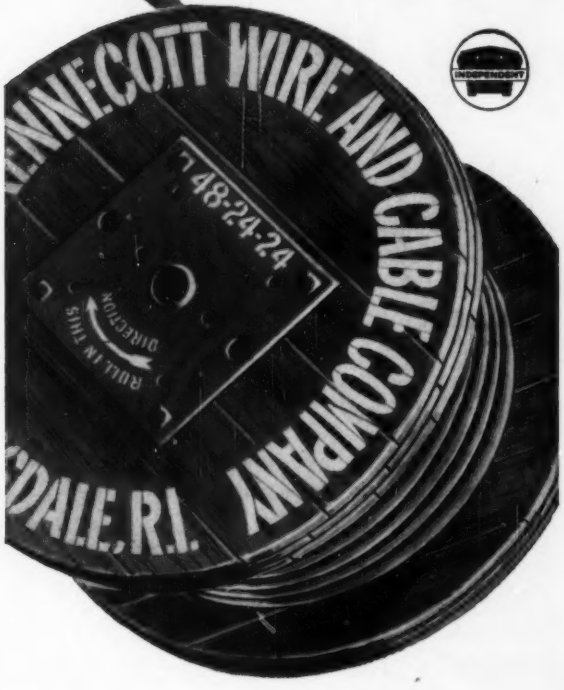
Dr. Finkelstein is a councilor of the Rochester Section of the Optical Society of America; and a member of the American Physical Society; the American Ordnance Association; the American Association of Physics Teachers, and of the Operations Research Society of America.

RESISTS OLD AGE

THANKS TO "YOUNG PROCESS"!

Kennecott's exclusive "Young Process" lead sheath does much to lengthen the life of Kennecott Telephone Cable. This sheath production method virtually eliminates oxides and impurities! Sheath is far more uniform in strength and burst resistance, with greatly reduced weld area. It provides increased protection against damage and aging. Cable retains full electrical properties over its long life!

IT'S KENNECOTT TELEPHONE CABLE



THE OKONITE COMPANY

KENNECOTT WIRE & CABLE DIV.

SALES OFFICES:

Atlanta 8, Ga.
Baton Rouge, La.
Birmingham 5, Ala.
Bluefield, Va.
Boston 10, Mass.
Chicago 29, Ill.
Cincinnati 6, Ohio
Cleveland 3, Ohio
Dallas 1, Texas
Denver 16, Colorado*
Detroit 20, Mich.
Houston 6, Texas
Indianapolis 21, Ind.*
Kansas City 8, Mo.
Los Angeles 13, Calif.
Memphis, Tenn.
Minneapolis 3, Minn.*
Milwaukee 6, Wisc.
Mobile, Ala.
New Orleans 12, La.
New York 17, N. Y.
Philadelphia 40, Pa.
Phillipsdale, R. I.
Pittsburgh 33, Pa.
Portland 5, Oregon
Roanoke 15, Va.
St. Louis 10, Missouri
Salt Lake City 15, Utah
San Francisco 24, Calif.
Seattle 1, Washington
Syracuse 3, New York
Tulsa, Oklahoma
Waterbury 20, Conn.*
Wilkes-Barre, Pa.

*c/o Chase Copper & Brass Co.

BI-SEAL

...THE ONLY SELF-FUSING POLYETHYLENE TAPE... IS MADE BY BISHOP

Now...only ONE tape for ALL drop wire splices...replaces time-consuming splicing methods requiring two tapes.

BI-SEAL IS THE ONLY POLYETHYLENE TAPE THAT IS...

- Self-fusing under its own pressure.
- Virtually non-absorbent (as low as .0065%).
- Unexcelled for cold weather applications (as low as -55° C).

BI-SEAL OFFERS...

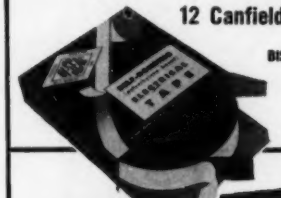
- Proof...years of operational experience indicate much longer weathering life.
- More protection than the original insulation.
- High dielectrical strength (approx. 1000V/mil). BI-SEAL conforms perfectly to the most complex shape.

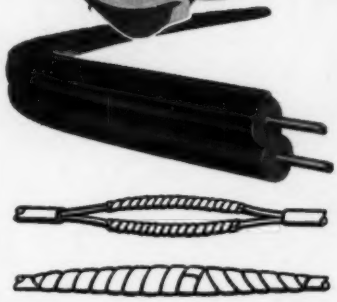
For complete information see your telephone supply distributor or Write today for Free Catalog on BI-SEAL and other quality BISHOP tapes.

BISHOP
MANUFACTURING CORPORATION
12 Canfield Rd., Cedar Grove, N. J.

BISHOP...MORE THAN A CENTURY OF ELECTRICAL INSULATION

INDEPENDENT





PARALLEL DROP WIRE SPLICE

- Wrap with a single half-lapped layer of Bi-Seal Type 2A
- Tension Tape approx. 3/4 original width. Extend tape 1/2" beyond sleeve
- Completed Splice
- Write for copies of Bi-Seal Splicing Methods, Specification BM-1

J. F. Lillis Elected ITT's Comptroller

International Telephone & Telegraph Corp. recently announced the election of James F. Lillis as vice president and comptroller. His predecessor, John G. Copelin, will concentrate on banking relations abroad, it was announced by Harold S. Geneen, ITT president.

Mr. Lillis, recently vice president and comptroller of Burroughs Corp. in Detroit, was to join ITT on Dec. 15.

Born in New York City, Mr. Lillis graduated from New York University with a B.S. degree in business administration and immediately joined Consolidated Edison, where for 12 years he was engaged in various capacities in the operating and accounting departments.

In 1942, he became a specialist in the public utility field with Price, Waterhouse & Co., in New York, and transferred to the Detroit office in 1948. A year later, he moved to Burroughs Corp. as assistant comptroller, and in 1951 was elected comptroller of the company.

He holds membership in the American Institute of Certified Public Accountants, the Controllers Institute of America, and presently serves as a national director and chairman of the National Committee on Management and Planning Controls.

Before his election in 1958 as a vice president of ITT, Mr. Copelin was vice president and comptroller of International Standard Electric Corp., ITT's management company directing research, manufacturing, sales, service, and licensing activities in 19 foreign countries.

Born in England, Mr. Copelin received his education in London and joined the export division of ISEC in 1928.

He was made a vice president in 1956, with responsibilities in the West Indies, Central and South America, Australia, the Far East and Canada.

B. I. C. C. and Burndy Corp. Combine for U. K. Service

The British Insulated Callender's Cables, Ltd. has signed an agreement with The Burndy Corp. of Norwalk, Conn., to form a new company in the United Kingdom to be known as BICC-Burndy, Ltd.

The new company has an authorized capital of 250,000 pounds and has been formed with the object of manufacturing and marketing the existing range of Burndy products, in the United Kingdom and other parts of the Commonwealth.

BICC-Burndy, Ltd. will be in a posi-

Look For . . .

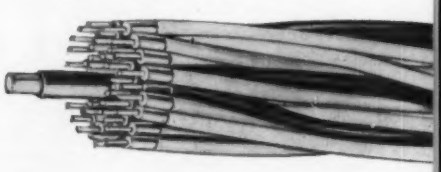
THIS CERTIFICATE

. . . On the Reel

- It means money saved in maintenance and replacement
- It is your guarantee that the wire has passed a stringent water submersion test before leaving the factory.

MULTI-PAIR DISTRIBUTION WIRE
complies with REA Specification PE-15

WB



MULTI-PAIR DISTRIBUTION WIRE . . .

WHITNEY BLAKE COMPANY

NEW HAVEN 14, CONNECTICUT

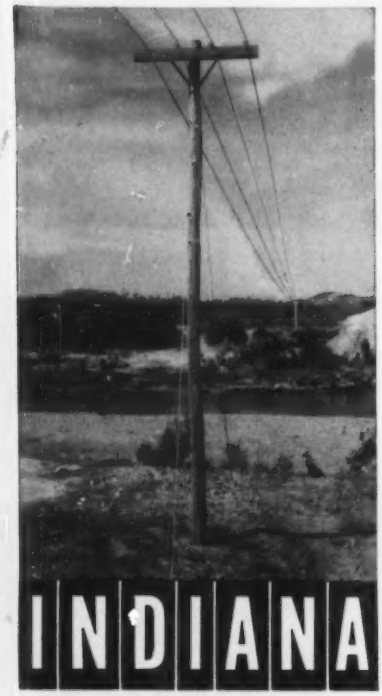
Telephone CHestnut 8-5515 **TWX NH84**

Crapo
HTL-195
EXTRA HIGH-TENSILE
TELEPHONE LINE WIRE
for low-cost
Rural Lines

• Spans up to 600 feet in Heavy Loading, 650 feet in Medium Loading and 700 feet in Light Loading districts are possible where Crapo HTL-195 is employed. This extra long span construction results in marked savings in costs per mile of line. Pole structures can be reduced to a minimum. Fewer pole structures mean substantial savings both in materials and man-hours of labor. There is less hauling to be done, fewer holes to dig, less material to be handled, installed and connected.

Improved electrical qualities make practical typical subscriber loops of 14 to 15 miles with normal voltages and equipment. Also can be used for subscriber carrier.

Write for Engineering Manual No. TM-59



INDIANA
STEEL & WIRE CO., INC.
MUNCIE, INDIANA

tion to supply all types of electrical connectors for Electricity Board transmission, distribution and power station work, and for manufacturers of switchgear and appliances. They will also provide connectors which have a wide application in the aircraft and ship building industries.

The Burndy Corp. is described by BICC as an organization with 35 years experience in research, development, design and manufacture of electrical accessories in the United States. It is also said to have evolved products to cover every type of electrical connection in a wide variety of materials. Their new association with BICC, a leading cable manufacturer in England, brings, according to BICC, the most advanced techniques for solderless connectors and terminations to British industry.

Manufacture in the United Kingdom will commence in January, 1960, but initial supplies to American standards will be available for test and examination almost immediately. Among these products is a forged copper line tap, the design of which is new to Britain, for application in rural electrification.

Production and marketing operations will be carried out at the BICC Accessories Division, Prescot, Lancashire.

Ruggles Retires from AE; Joins Cook Electric

Cook Electric Co. has announced the appointment of Leonard L. Ruggles as chief engineer of its Wirecom Division, which manufactures telephone distribution and protection equipment.

L. L. RUGGLES

Mr. Ruggles retired as chief telephone engineer for Automatic Electric Co. on Nov. 30 after nearly 41 years of service with that company.

In addition to a slide projector, Mr. Ruggles was presented with a plaque, commemorating his outstanding service to the company, by President Herbert F. Lello.

Holder of 13 U. S. Patents, Mr. Ruggles is credited with important developments in automatic switching systems during his career with Automatic Electric. In 1954, he was the recipient of the Talbot G. Martin Award presented by the Strowger Automatic Club, an employe organization, for his outstanding contributions to the art and science of communications.

A veteran of World War I and a graduate of Purdue University, Mr. Ruggles is a member of Tau Beta Pi and Eta Kappa Nu, honorary engineering fraternities, the Western Society of Engineers, and is a fellow in the American Institute of Electrical Engineers.

Fellow employes of Automatic Electric—some 120 strong—honored his retirement with a banquet on Nov. 30.

Graybar Electric Appoints Two District Managers

Effective Dec. 1, H. G. Cook, Ohio Valley district manager for the Graybar Electric Co., Inc., announced the appointment of C. R. Handman as manager of Graybar's Lexington, Ky. branch.

Mr. Handman went to Graybar in 1941 as a selector at the warehouse in Cincinnati.

He was in military service for three years and returned to Graybar in 1946. In 1949 he became a salesman at the Dayton branch, which position he held until his present appointment.

E. P. Jones, Erie, Pa. district manager, has announced the appointment of E. S. Arsenault as district financial manager as of Jan. 1, 1960.

In 1947, Mr. Arsenault began with Graybar at their Boston office as a creditman.

He was transferred to the New York area in the same position in 1953, where he has been located until his present promotion.

Graybar's Erie district includes offices and warehouses in Cleveland, Toledo and Akron, O.

Many Engineers Attend AE Telegraph Carrier Seminars

More than 200 communications engineers representing more than 80 telephone, railroad and pipeline companies have completed telegraph carrier engineering seminars sponsored by Automatic Electric Sales Corp., Northlake, Ill.

The one-day classes have been held around the nation, in Houston, Tex.; Kansas City, Mo.; Minneapolis, Minn.; New York City, N. Y.; Atlanta, Ga.;

PAGE WIRE

—now offers

ACCO *Aluminized*

Telephone Wire and Strand

Here are two new examples of PAGE'S pioneering leadership—the same kind of leadership that earlier was responsible for the development of Stainless Steel Strand, and was instrumental in developing Stainless Steel Lashing Wire:

1 • Our new ACCO *ALUMINIZED* Telephone Wire, combining the strength of steel with the corrosion-resistance of a bonded coating of aluminum. Available in these grades: Best Best (BB); Grade 85; Grade 135; Grade 190 (Support Wire) and Steel Construction Wire.

2 • Our new ACCO *ALUMINIZED* Steel Strand, also with a bonded coating of corrosion-resisting aluminum. Made in 3-, 7- and 19-wire construction. Available in Common, Siemens-Martin, High Strength, Extra High Strength and Utility grades.

We consider the unique aluminized coating of these wires to be superior to Class C galvanizing—in longer service life under virtually all conditions. Yet, with all their advantages, you can buy them at *much lower prices!*

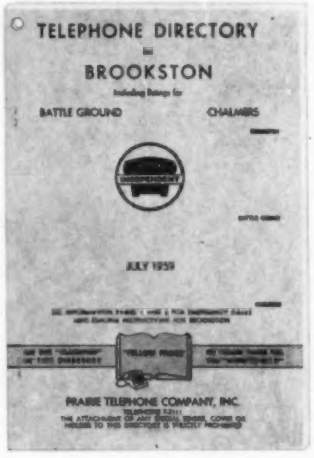
***For full details,** see your Telephone Supply Distributor —or write our Monessen, Pennsylvania, office.*

Page Steel and Wire Division

AMERICAN CHAIN & CABLE

ACCO

Monessen, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Bridgeport, Conn.



A Directory for the

Prairie Telephone Company, Inc.

Printed by

R. R. Donnelley & Sons Company

350 East Twenty-second Street, Chicago 16

For sure telephone cable support use

CF&I Galvanized Steel Strand

The Image of CF&I—a giant steelman—stands for continually improved steel products for all industries. One of these dependable products is CF&I Galvanized Steel Strand which provides years of trouble-free support for aerial cables.

Strong yet flexible, CF&I Strand is easy to install. An "envelope" of zinc acts like a raincoat on this messenger, protecting it against corrosion.

Also used for guying, CF&I Galvanized Steel Strand made in seven- and three-wire constructions meets ASTM Specification A-122. Or it can be made to your individual specifications. For prompt delivery, call the nearby CF&I sales office or contact your local distributor.

6772-A

CF&I STEEL

GALVANIZED STEEL STRAND

THE COLORADO FUEL AND IRON CORPORATION

In the West: **THE COLORADO FUEL AND IRON CORPORATION**—Albuquerque • Amarillo • Billings • Boise • Butte • Denver • El Paso • Farmington (N. M.) • Ft. Worth • Houston • Kansas City • Lincoln • Los Angeles • Oakland • Oklahoma City • Phoenix • Portland • Pueblo • Salt Lake City • San Francisco • San Leandro • Seattle • Spokane • Wichita

In the East: **WICKWIRE SPENCER STEEL DIVISION**—Atlanta • Boston • Buffalo • Chicago • Detroit • New Orleans • New York • Philadelphia

CF&I OFFICE IN CANADA: Montreal • **CANADIAN REPRESENTATIVES AT:** Calgary • Edmonton • Vancouver • Winnipeg

HALEY
CEDAR
POLES
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STRENGTH • DURABILITY • SAFETY
CLEANLINESS • LIGHTER WEIGHT
UNIFORMITY

TWO YARDS—strategically located. MINNEAPOLIS, MINNESOTA and FINDLAY, OHIO.

R. G. HALEY & CO.
SPITZER BLDG. TOLEDO 4, OHIO

Portland, Ore.; San Francisco, Calif.; and in Chicago, Ill.

Conducted by Alan J. Brown, AE carrier and radio staff engineer, the seminars covered amplitude versus frequency modulation in telegraph carrier equipment, data and telemetering problems, equipment applications, and transmission considerations.

A. C. Brooks Appointed USI Baltimore Manager

Albert C. Brooks has been named manager of the Baltimore sales division for U. S. Industrial Chemicals Co., division of National Distillers & Chemical Corp. Alden R. Ludlow Jr., vice president in charge of sales, announced the appointment. Mr. Brooks succeeds James F. Whitescarver who has retired.

Mr. Brooks has been associated with USI for approximately 25 years, and has had a varied background of experience in the plant, in the laboratory and in sales. He went to Baltimore sales in 1940 and was assistant manager of the Baltimore division at the time he was given his new appointment.

Mr. Brooks' predecessor, James F. Whitescarver, joined USI in 1922 and served as Baltimore division manager for many years.

Three Sales Representatives Named by Acton Labs

The appointment of three new sales representatives has been announced by Acton Laboratories, Inc., Acton, Mass., a subsidiary of Technology Instrument Corp.

The appointees will service the company's markets across the country. Representing ALI's line of electronic laboratory test instruments are:

Saffro & Associates, 5209 N. Kimball Ave., Chicago 25, Ill. The territory covered will be Wisconsin and western Illinois. Telephone is JUniper 8-0905.

Lawrence L. Hill, 1635 Garland, Wichita, Kan. The territory covered will be Kansas, Missouri, and southern Illinois. Telephone is AM 7-3850.

White & Co., 788 Mayview Ave., Palo Alto, Cal., will cover northern California and Nevada. Telephone is DAvenport 1-3350.

Mahoney Plans To Enter Consulting Business

Harry P. Mahoney, well-known Independent telephone industry executive, who recently resigned as vice president and general manager and director of the York (Pa.) Telephone & Telegraph Co., has announced he will enter the telephone consulting business on Feb. 1, 1960, with headquarters in York.

H. P. MAHONEY

Mr. Mahoney joined York T&T in December, 1953, following his retirement as chief engineer of Associated Telephone & Telegraph Co., and chief consulting engineer of Automatic Electric Co., former Gary Group companies and now subsidiaries of General Telephone & Electronics Corp.

Mr. Mahoney's telephone experience dates back to the early 1900's. Following associations with two operating

LASHING WIRE

WE PRODUCE

The finest lashing wire possible because we believe . that lashing wire is one of the important parts of the cable plant, its duty being to hold the cable to the messenger for the life of the plant.

•

WE COIL

The best coil possible because we know . that tangled or out of shape coils can cause spinning trouble, waste and delay

Write for Complete Information

CABLE SPINNING EQUIPMENT CO.
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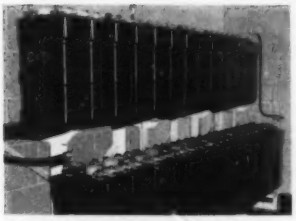
CHESTER TELEPHONE COMPANY, CHESTER, SOUTH CAROLINA, WATERS C & D LEAD-CALCIUM BATTERY ONCE IN SIX YEARS!



Installed early in 1953, this C & D 25-year life, lead-calcium battery, Type RCT-840 has only been watered once. Capacity is 840 A. H. Today, the cells of this same type battery are supplied in transparent, high-heat resistant, plastic containers, instead of hard rubber, and provide the same excellent performance.

Watering once in six years is somewhat unusual — even for a C & D lead-calcium battery. Watering once every *two* years, however, is quite common. The reason? C & D lead-calcium batteries require only a fraction as much current to maintain a fully charged condition as do conventional lead-antimony batteries. Thus, there is less electrolysis of water, which reduces the number of necessary water additions. Many man-hours and hundreds of dollars yearly are saved on routine maintenance.

If you're interested in this kind of maintenance-free operation and a battery which will last 25 years in full float service, then install the C & D lead-calcium *PlastiCal*®.

With C & D *PlastiCal* telephone batteries you get: *Extra life plus—from .266" thick lead-calcium plates, the thickest telephone battery plates made. Sediment build-up is virtually eliminated—due to triple insulated plates instead of the usual dual. No low cells—because C & D AccuPak* plates are manufactured under AccuRay** precision control—receive automatic 100% inspection.*

PlastiCal details and specifications are in catalog T-532. If a lead-antimony battery meets your needs, then investigate C & D *PlastiCell** telephone batteries. You get .266 inch thick, triple insulated, AccuPak plates that provide extra life. Ask for Bulletin T-533. A glance at either of these bulletins will tell you why telephone men agree—C & D is your better battery buy.

*Trademark, C & D Batteries
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of Conshohocken, Pa.... Attica, Ind.
DIV. THE ELECTRIC AUTO-LITE CO.

Manufacturers of Slyver-Clad® Industrial Batteries • PlastiCell* and PlastiCal® Batteries for Communications, Control, and Auxiliary Power • Producers of AutoReg® Silicon Chargers and AutoCal* Charger-Battery Combinations
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Thanks for your splendid response. All orders being shipped promptly.

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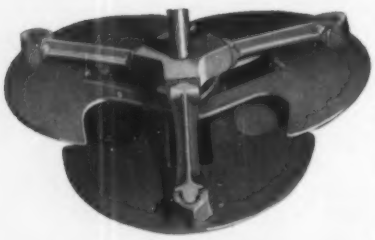
QUICKLY Installed
TOUGH For long life



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companies in Chicago, he joined Automatic Electric Co. in 1905. Until his retirement in 1953, Mr. Mahoney held various responsible positions with Associated T&T and Automatic Electric and other Gary Group companies.

These positions included: superintendent of the installation and operating department; chief engineer of Automatic Electric Co.; director and chief engineer of Associated Telephone & Telegraph Co.; vice president and chief engineer of Automatic Electric Sales, Ltd.; president of Associated Electric Laboratories.

While in these positions, Mr. Mahoney's activities covered the operation of telephone properties, design, engineering and large installations of switching systems, both manual and dial, and a combination of the two, in this country and in various parts of the world.

He spent long periods of time on foreign assignments, such as chief consulting engineer on the conversion of the London telephone system from manual to dial, the conversion of the system in Buenos Aires to dial operation, and similar projects in Sao Paulo, Brazil; Havana, Cuba; Manila, Philippine Islands, and Vancouver, B. C.

Following World War II, Mr. Mahoney was assigned the task of directing the rehabilitation of the system of the Philippine Long Distance Telephone Co. which was destroyed by the Japanese. As vice president and general manager, he spent six years on the assignment.

Mr. and Mrs. Mahoney left York on Dec. 11 for an extended cruise on the S.S. Rotterdam around South America and will return to this country in February of next year.

Williams Named GE Market Administration Manager

Paul D. Williams has been named manager of marketing administration for General Electric Communication Products department's national headquarters in Lynchburg, Va.

Mr. Williams will be responsible for commercial service, order processing, sales forecasting and marketing budgeting for G-E's two-way radio, microwave, carrier current and military communication lines.

He joined General Electric Co. in 1943 as an auditor. Immediately prior to his Lynchburg appointment, he was manager of marketing for the company's insulating materials department at Schenectady, N. Y., where he has been located for three years.

Earlier, Mr. Williams served with several General Electric product departments in managerial positions related to finance and sales activities and with G-E Management Consultation Services in New York, where he was manager of business surveys.

P. D. WILLIAMS

A native of Herrin, Ill., where he attended high school, he received a bachelor's degree in business administration from Tulane University of Louisiana in 1937.

Name W. Ohio Salesman For Automatic Electric

Donald A. Starbuck Jr. on Nov. 24 was named a sales representative for the western Ohio territory in the communications products division of Automatic Electric Sales Corp., Northlake, Ill.

D. A. STARBUCK JR.

Formerly a staff engineer, Mr. Starbuck joined the corporation in 1956 after serving as a salesman for Swift & Co. He will be responsible for a territory consisting of western Ohio and parts of Kentucky.

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Submarine Cable — 25 pr #19 ga., double paper, lead covered, double wire armor, jute protected. 800 ft per reel: price per reel $800. (18 reel only)

Direct Burial, lead cov., 10 pr. #22 ga. PILC, double steel tape armor, jute. 1800 ft (one reel) $200. M ft. 26 pr #19 ga. PILC, double steel tape armor, jute. (1400 ft only) $400. M ft.

Plastic Burial Cable 6 pr #19 ga. (stranded) with 1 #16 ga. quad. shielded PVC ins. & jacket wire armor. (sample on request)

Lead. 51 pr #19 ga. plus 4 Video pr. #16 ga. (copper shielded) poly eth. ins. (1300 ft only) $750. per M ft.

Special Purpose cable available for immediate delivery at special low prices. Interior & exterior types.

Lead, plastic and braid Switchboard cable available at special prices.

Twisted Drop Wire #104, Copperweld 40% Neoprene covered, $50. per M ft.

Twisted Pair Drop #20, Copperweld 40%, $15. per M ft.

QUADDED CABLE lead

7 quad #19 ga. PILC (100,000 ft) 3-4 M ft. per reel, $200. per M ft.

37 quad #19 ga. PILC 1050 ft, $650. per M ft.

7 quad #19 ga. Plastic Superior, 5300 ft, $250. per M ft.

11 pr #19 ga. PILC 1400-1600 ft reels, 4000 ft total, $200. per M ft.

26 pr #19 ga. Neoprene 1400 ft (not coded), $250. per M ft.

101 pr #22 ga. Plastic 1300 ft, $750. per M ft.

303 pr #22 ga. Ankoseal 775 P, 2000 ft, $2. per foot.

Flexible Neoprene cables for elevator and other mobile use from 5 pair to 40 pair (also unpaired multiconductor).

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TELEPHONES—all types—any condition, candlesticks, wall sets, etc. Write advising quantities available. Our trucks will pick up. Reply to Box No. 3952, c/o TELEPHONY.

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GOVERNMENT SURPLUS—3 portable used combination common battery and magneto switchboards, with batteries and battery chargers. Tower distribution panels with rubber covered hook-up wire. Also miscellaneous accessories. Houston Truck & Equipment Co., 6716 Long Dr., Houston 17, Texas.

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Send for Bargain Stock List No. L7.
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FOR SALE

LEICH 901-wall or desk magneto telephones. Cleaned, tested and guaranteed, $16.50 each. As removed from service, no broken or missing parts, $15.00 each. Turtle Lake Tel. Co., Turtle Lake, Wis.

STROMBERG-CARLSON JUNIOR MULTIPLE COMMON BATTERY SWITCHBOARD — MDF — Relays — Charger — 24 volt battery. Write for more information and price to: Farmers Independent Telephone Co., Grantsburg, Wis.

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TELEPHONE ENGINEER with design and construction experience for Project Engineer position in West Indies. Write Box No. 4336, c/o TELEPHONY.

SUPPLY SALESMAN WANTED by 50 year old company—car and allowances—bright future in expanding operation. Write Box No. 4334, c/o TELEPHONY.

AMBITIOUS MEN qualified as Station Installers, Equipment Installers, Cable Splicers, Linemen. Work in Midwest. Harris-McBurney Company, Inc., P.O. Box 267, Jackson, Mich.

MAN WITH SECOND CLASS RADIO TELEPHONE LICENSE and Telephone background. Prefer a man experienced in Relaymatic or Step-by-Step equipment. Reply to: Equipment Supervisor, Northeastern Telephone Corp., London, Ky.

CABLE SPLICERS, Station Installers, Equipment Installers, Linemen. Experienced men needed. Steady work, good pay. Henicels & McCoy, 1800 Johnson St., Elkhart, Indiana, or 6100 N. 20th St., Philadelphia, Pa.

PLANT SUPERINTENDENT—for Class A telephone company in Midwest. Should have experience in telephone supervision and outside plant engineering. Telephone company is located in growing area and represents an opportunity for qualified man. List qualifications and background in letter to Box No. 4329, c/o TELEPHONY.

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JACKS — LAMPS
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#128 on 97 Mtg. (10 per)
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4300 Each #24-B-2 SWITCHBOARD LAMPS
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Stromberg-Carlson Trunk Hunting Connector Switches #S-30158-1 on Plug-In Plates #484834 (38 available)—NEW

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Manual Equipment

Should be familiar with engineering and operation of toll boards, test desks and other manual equipment.

Dial Equipment

Experienced in operation and engineering of step-by-step equipment.

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Applicants should have 2 to 3 years experience in above positions. College training desirable. Those qualified may call or visit Mr. J. F. Casey, Employment Manager.

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Dierks Forests, Inc., Wood Preserving Division, 810 Whittington Ave., Hot Springs, Arkansas. Southern Pine select poles all sizes and lengths, pressure-treated, creosote or penta. Also creosote-2% penta mixture. Prompt shipment.

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To thank you as we'd like to do
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For if we had no friends like you
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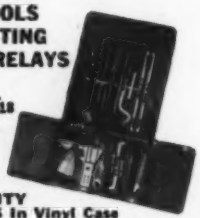
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Index to ADVERTISERS

	Page
Acme Electric Corporation	—
Acme Visible Records, Inc.	—
Airtronics International Corp.	—
Alphaduct Wire & Cable Co., The	47
Altec Lansing Corp.	—
Aluminum Company of America	—
American Chain & Cable Co., Inc. Page Steel & Wire Div.	63
American Creosoting Corporation	—
American Electrical Heater Co.	—
American Steel & Wire Co.	—
American Telephone & Telegraph Co.	—
Anaconda Wire & Cable Co.	—
Ansonia Wire & Cable Co., The	—
Arps Corporation	—
Atlantic Creosoting Co., The	69
Auburn Machine Works, Inc.	—
Automatic Electric Sales Corp.	12, 34-35
Avnet Electronics Corp.	—
Baker Wood Division	—
Barber Advertising Specialties, Walt	—
Barber-Greene	—
Bartlett Tree Experts	—
Bell Telephone Laboratories, Inc.	—
Benner-Nawman, Inc.	—
Bethlehem Steel Co.	—
Berry & Co., L. M.	—
Bishop Manufacturing Corp.	59
British Insulated Callenders' Cables, Ltd.	—
Brown Mfg. Co.	—
Buchart Associates	—
Budelman Electronics Corporation	—
Buckeye Telephone & Supply Co.	68
Burgess-Manning Company	—
Burroughs Corp.	—
Butler Manufacturing Co.	—
B. Y. Dial Service	—
C&D Batteries, Inc.	65
Cabaniss-Pogue Co.	67
Cable Construction Co.	67
Cable Spinning Equipment Co.	64
Calculagraph Company	—
Chance Co., A. B.	—
Charles Machine Works, Inc.	—
Cleveland Inst. of Electronics	—
Clifton Appraisal Company	—
Collins Radio Co.	—
Colorado Fuel & Iron Co., The	63
Commercial Cord Company, Inc.	—
Communication Equipment & Engineering Co.	49
Cook Electric Company	—
Copperweld Steel Co.	—
Crane Inc., Carl C.	67
Cushman Motor Works, Inc.	—
Dahl Co., Inc., George W.	—
Dampp-Chaser, Inc.	—
Davis Construction Co.	—
Davis, Inc., Archie	69
Dial Haven, Inc.	68
Diamond Expansion Bolt Co.	—
Donnelley & Sons, R. R.	63
Dow Chemical Company	—
Duo-Safety Ladder Corp.	—
E. & C. Contracting Co.	67
Electric Specialty Co.	—
Everstick Anchor Co.	66
Exide Industrial Division—The Electric Storage Battery Co.	—
Fitchburg Engineering Corporation	—
Foley Construction Co., Robert E.	67
Gagne Enterprises, Inc.	53
General Cable Corporation	—
General Insulated Wire Works	—
General Machine Products Co., Inc.	52
General Telephone Directory Co.	Back Cover
Goodrich Chemical Co., B. F., The	—
Gould-National Batteries, Inc.	—
Graybar Electric Co.	10-11
Haley & Co., R. G.	64
Hallamore Electronics Co.	39
Harris McBurney Company	—
Henkels & McCoy	69
Highway Trailer Company	—
Hirsch Organization Inc., Gustav	—
Holan Corp.	—
Indiana Steel & Wire Co.	62
Irwin Auger Bit Co.	—
Johns-Manville	—
Kearney Co., Jas. J.	—
Kellogg Switchboard & Supply Co.	6-7, 52
Kennecott Wire & Cable Div.	59
Keystone Steel & Wire Co.	—
Killoren Company	—
Klein & Sons, Mathias	56
Kleinschmidt	—
Koiled Kords, Inc.	—
Koppers Co., Inc. Wood Preserving Div.	69
Leich Sales Corporation	14-15
Lindsay Telephone Supply Co.	—
Line Equipment Sales	68
Lorain Products Corp., The	9
McCabe-Powers Body Company	—
McGrath Engineering, Inc.	67
Midwest Communications Service	67
Monsanto Chemical Co.	43
Morrison-Pelsue Co.	—
Motorola Communications & Electronics, Inc.	41
Mullen Construction Co.	69
Murphy Engineering Laboratories	67
Natco Corporation	—
National Pole & Treating Div.	—
National Standard Co.	—
National Telephone Supply Co.	—
Neubauer Mfg. Co.	—
Neuses, Inc., P. K.	68
North Electric Company	30-31
Okonite Company, The	59
Onan & Sons, D. W.	—
Orangeburg Manufacturing Co., Inc.	—
Osmose Wood Preserving Co.	—
Owens-Illinois	—
Page & Hill, Inc.	—
Page Steel & Wire Div. American Chain & Cable Co., Inc.	63
Phelps Dodge Copper Products Corp.	4-5
Philco Corporation Gov't & Industrial Div.	37
Plastic Wire & Cable Corp.	51
Porter Inc., H. K.	—
Preformed Line Products Co.	54-55
Puregas Equipment Corp.	—
Radio Frequency Labs, Inc.	—
Railway Communications, Inc.	—
Ramset Fastening System	—
Rawlplug Company, The	—
Raytheon Company	57
Recordak Corp.	—
Reichhold Chemicals, Inc.	—
Reliable Electric Company	—
Republic Creosoting Company	—
Rex Corporation, The	—
Rex Rheostat Co.	68
Reynolds Metals Co.	—
Rolatape, Inc.	—
Runzel Cord & Wire Co.	48
S & G Manufacturing Co.	46
Schauer Mfg. Co.	—
Seymour Smith & Son	—
Sherron Metallic Corp.	—
Siemens Edison Swan, Ltd.	—
Sierra Electronics Corp.	—
Sloan, Cook & Lowe Co.	67
Stainless, Inc.	50
Stampings, Inc.	58
Stewart Bros.	—
Stromberg-Carlson Co.	2-3, 44-45
Studebaker Packard Corporation	—
Superior Cable Corporation	13
Suttle Equipment Corporation	33
Taylor-Colquitt Co., The	—
Telecommunications Consultants	67
Telectric Co.	67
T.E.I. Corp.	67
Tel-E-Lect Products, Inc.	—
Tele-Muff Co.	66
Tele-Wire Supply Co., Inc.	69
Telkor, Inc.	—
Templeton, Kenly & Co.	—
Thornhill Publishing Co.	—
Truck Equipment Company	—
Tudor & Yager, Inc.	67
United Electric Controls Co.	—
United States Independent Telephone Association	—
U. S. Industrial Chemicals Co.	—
United States Instrument Corp.	71
United States Motors Corp.	—
United States Steel Corp. American Steel & Wire Co. Creosote Division	—
Universal Controls Corp.	—
Utility Service Co., Inc.	—
Utility Tool & Body Co.	—
Warren Mfg. Co., Inc., The	16
Weikel Line Company	68
Western Electric Co.	—
Whitney-Blake Co.	60-61
Williams Inspection Co., Inc., A. W.	69
Wiremold Co., The	—
Wyoming Valley Equipment Div.	—
York-Hoover Corporation	—

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